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ABSTRACT

Described is a team teaching noncategorical practicum experience for education and psychology students, aides, and parents of multihandicapped children ages 4 to 13 years. Reviewed are the advantages (such as greater teacher flexibility and increased exposure to other adults) of a clearly defined and organized team teaching approach. Reported are evaluations of the student teacher based on such factors as assessment, programing, and teaching skills, as well as participant evaluation of the practicum at its completion and 1 year later. Involvement of parents is detailed, including appended suggestions for counseling and teaching management skills. Ten appendixes comprise more than half the document and include a summary of the characteristics of the classroom children and their disabilities, sample evaluation forms, a discussion of using the Bayley Test with multihandicapped children, a listing of the infants in the home teaching program, descriptions of staff inservice workshops in Pennsylvania and Florida, illustrations of materials for multihandicapped children, and a proposal for operant audiometry with difficult to test multihandicapped children. Also provided is a manual for parents and teachers of severely handicapped children with charts and teaching suggestions for self-help skills (eating, dressing, toileting, and grooming), motor development (including body image and balance), and concept and communication skills (nonverbal, preverbal, and verbal communication). (CL)

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FINAL REPORT

A Team Teaching Practicum for Teacher Preparation in Multiple Handicaps

December, 1972

George Peabody College for Teachers
Nashville, Tennessee

A project supported by the Bureau of Education for the Handicapped, United States Office of Education (No. B-68)
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Verna Hart
Signature of Project Director

9 January 1973
Date

John M Claunch
Signature of Authorized Official

January 9, 1973
Date

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Special Project No. B-68

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Preparation in Multiple Handicaps

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Abstract

The increase of students with multiple handicaps is a growing concern to personnel in special education. An innovative means of teacher preparation was used to train teachers for young children with multiple handicaps. A team of teachers was assembled to teach children who were excluded from any type of schooling. The children were grouped not according to the basis of physical disability but according to their learning problems. The curriculum included self care and socialization, motor development (including mobility), adaptive behavior covering various aspects of percept and concept development, and communication. Teachers in preparation, psychologists, aides and parents were all part of the practicum program from its inception.

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Throughout the nation those engaged in educating exceptional children have become increasingly concerned with the growing number of children with multiple handicaps. Increased medical knowledge has enabled premature babies and children to survive disease and infections that were once fatal. Often such survival is accompanied by severe handicapping conditions. The rubella epidemic of 1963-65 has added to an already critical problem by adding thousands of children with multiple disabilities and the additional need for teachers to educate them.

Traditionally, multihandicapped children have been taught by minimally qualified teachers, or at best those prepared in only one area of disability. Throughout the country, children have been segregated into special schools or presumably homogenous classes for the deaf, the blind, the crippled, the retarded and so on. Specific programs for multihandicapped children have been rare indeed. There is a realistic recognition of the problems and needs created by the increasing number of children with multiple handicaps.

Lowenfeld (1968, p. 6) reported that in California multiple handicapped blind children of school age outnumbered "normal" blind children by almost two to one (19 to 11). Even when school age children in state hospitals were excluded from the count, "normal" blind children outnumbered multiple handicapped blind by only 11 to 9. Of the 940 multiple handicapped blind children, 70.6% had mental handicaps, 39.5% had emotional handicaps, 28.2% had speech handicaps, 21.7% had communcation handicaps, and 15.2% had cerebral palsy. Cruickshank (1959) reported that among all visually handicapped children studied, the following percentages were found to have these additional handicaps: 25% speech problems (making understanding difficult), 28.5% emotional adjustment problems, and 31% physical disabilities. Bucknam (1965) indicated that 70% of the 137 children in a residential school for the blind had other handicaps in addition to blindness.

Thus, traditional education of handicapped children by categorical groupings becomes more difficult and unrealistic. As the number of multiple handicapped children and their educational programs increase, it is imperative that teachers be trained for these programs.

Problems and Objectives

A number of teachers who have been prepared in one area of disability take additional coursework or receive in-service training in other areas of disability in order to teach multiple handicapped children. Such teachers have always been in short supply. Because of the large number of exceptional children now living and greater numbers projected for the future, their needs for care and training are critical. Schools and institutions across the country are constantly recruiting adequately trained teachers, knowing that they will probably have to make less satisfactory arrangements to fill teaching positions.

In a teacher preparation course that emphasizes the theory of good teaching and gives information regarding the various types of exceptionalities, there is a need for practicum experience to put the theories to work. Conversely, in a situation where in-service training is practiced, theory is needed to enable the teacher to give rationale to the practices observed. The teacher is then able to program new experiences that should logically follow.

The most pressing problem in the preparation of teachers of multiply handicapped children is the lack of qualified personnel to act as practicum critic teachers. It has been the experience during past years that the critic teachers were turning their classes over to the student teacher and taking time from the teaching situation to learn from the students instead of allowing them to perfect their teaching skills through critical assessment. This condition has arisen because these critic teachers with little competency in the area of special education, or with skills in one area and with no knowledge of the techniques used in teaching other types of disabilities, were often those chosen to teach a class of multiple handicapped children.

In designing the practicum experience for student teachers of multiple handicapped children, a team-teaching approach was chosen as the method of student teacher preparation that would provide the optimum learning opportunity and would enable the student to achieve effective interaction with a heterogeneous group of children. An analysis of the characteristics and the goals of team teaching reveals a great similarity to the goals of instruction for a school population of children with multiple handicaps. Although such an approach has not been used extensively in special education situations, limited applications of such a technique have indicated that it will subsequently prove to have definite advantages for special education as well as for regular classroom situations.

A brief discussion of the goals and advantages of team teaching will serve to clarify the rationale for using this method with multiple handicapped children. Proponents of the team teaching method stress that such an approach makes greater utilization of teacher strengths, provides more time for planning and preparation of lessons, gives the program greater flexibility, considers the natural differences of the children in the program, increases opportunities for individual instruction, adds to the range of instructional possibilities, assures optimum productivity for teachers and facilities, creates an air of enthusiasm and permits pupil evaluation by a group rather than by an individual. (Ediger, 1965; Glenn, 1967; Fraenkeland, 1966; Goodlad, 1965; Rahner, 1965)

Teachers while in preparation, are provided the opportunity to observe several different teaching models in a team-taught classroom situation. This in turn permits the student to experience a wider range of instructional techniques and materials. The observation of several demonstration teachers by the student teacher provides an opportunity for optimal professional growth.

Team teaching was used in the project to set up a model practicum situation to be used not only by (1) teachers preparing in the area of multiple handicaps, but also by (2) psychologists learning to assess handicapped children, (3) other personnel presently in charge of groups of these children, (4) teacher aides and (5) parents.

The program was developed within a single framework to encompass the dual emphases of theory and experience. Practicum experience was stressed. The expertise of optimum personnel was utilized for team teaching to provide examples of effective practices. Discussions with students about the theory behind such practices were conducted immediately before or after the observations or in the observation room while the practices were under way. Lectures and observations were conducted in a large obervation-lecture room overlooking the classroom. The training program provided knowledge and experience about many types of exceptional children. This multiplicity of training was accomplished during the same amount of time required for the preparation necessary to teach one type of exceptionality.

Description of Activities

I. The Use of Team Teaching with Multihandicapped Children

A. Ramification of Team Teaching

During the first year, a five week pilot study was made to determine the strengths and weaknesses of team teaching. Changes were made following the pilot program, and a full time practicum began. The needs of the children were assessed relative to their exclusion from the more traditional programs. The curriculum was developed to correct the child's individual deficiencies. Self care skills and socialization were prime curriculum areas. Motor development was another. This included basic motor development, such as sitting up and walking for some, and basic mobility for others. Adaptive behavior was included and ranged from simple percept and concept development for some to school readiness activities for others. The communication problems covered extended from non-verbal to articulation and stuttering.

The team of teachers was chosen because of their expertise in the areas of motor, adaptive behavior, and communication. All were expected to take part in teaching self care skills by following procedures developed specifically for the classroom.

A review of the team teaching literature reveals that a positive attitude is developed as a result of using this approach. Although there is a sparsity of information regarding its application to special education, experience within the team teaching practicum has substantiated and proven the efficacy of team teaching as a means of educating multihandicapped children and an even more productive method of training teachers. The utilization of the team approach during the practicum proved to be advantageous.

1. The students and children benefited from the individual proficiencies of each teacher. Each student had contact in his student teaching experience with three teachers instead of one, and therefore the student was exposed to a multiplicity of strength. Excellent critic teachers are few in number and a teacher who is skilled in all areas of the curriculum is a rarity. Selection of team members because of their superiority in a specific area gave

the students positive models in each area. Such models are especially pertinent when multihandicapped children are involved because each teacher can also contribute expertise in various types of handicapping conditions.

2. The varying personalities of the team members offered each trainee and child a varied range for relating and modeling. The distinct personalities of the team also enabled students to relate and learn from different types of persons.

3. Personality clashes between child and teacher or between student and critic became less likely because different persons were not involved in prolonged contact.

4. There was greater professional growth for the team and the students because interaction and discussion were vital parts of daily planning. Such interaction enabled maximal use of the special assets and knowledge of the teachers involved. This interaction also presented a good learning experience because teachers could share their expertise, plan cooperatively, pool their talents, and extend their range of instruction.

5. The team teaching situation created greater flexibility in programming and scheduling and thus fostered better individualization of instruction. While one teacher led a large group activity, the other members were free to give individual help, to observe one child or the group, collect data, or gain insight into incipient and existing problems. This permitted a team member to take time out during large group activities without disrupting the activity.

If one member was absent, the others could adjust the schedule to accommodate all the children without a total disruption of the day. In an emergency one teacher could stay with the large group while the others took action.

The schedule could also be arranged to cover the entire time the children were at school and still leave break times for each teacher. If there was a specific problem or need, the team could draw on all its knowledge and experience to solve it rather than relying on the experience of just one person. Schedules and groupings could be changed to accommodate the changing needs of the children. If a child had a personal problem, became sick, etc., it was likely that at least one team teacher recognized the problem whereas a teacher working alone might miss it.

6. The children had contact with several adults rather than just one. Traditionally, multihandicapped children have been placed with as few people as possible in the belief that it was necessary to build a relationship with one individual. Although it was necessary to teach the children to relate to the teachers, the consistency of the teachers in interactions with the children was more important than the number of persons involved. Interrelationships were naturally fostered because of the child's exposure to various personalities.

7. Enthusiasm was high throughout the program. When one teacher became discouraged the others were there to reassure and give inspiration. This enthusiasm was due to the reinforcing aspect of group teaching and the lack of isolation so often prevalent in separated and segregated classrooms. Keen interest and a high degree of creativity was maintained because of the pool of ideas available for lesson planning, critiques, and the molding of student endeavors and innovative activities.

8. Team teaching was an ideal setting for a first year teaching experience. Guidance, support, and some structure were available,

while at the same time independence and creativity were fostered.

9. The possible enrollment of severely handicapped children increased through use of the team concept. One child who needed individual attention could receive it while the remaining teachers supervised the other children. This allowed all children direct supervision while enabling one child to be removed from the group for toileting, tutoring, or behavior management.

10. The expertise available among a team of teachers also permitted the admittance of children with a wider variety of handicapping conditions. No one person may want to assume responsibility for a severely involved child, but the sharing of care and teaching tasks permitted the enrollment of such a child.

Experience within the practicum setting has shown that a certain structure must be given to the team to make it productive. In-service work with other teams has corroborated the findings of this special project as well as disclosing problems and requirements that had arisen within other programs.

1. The idea of team teaching must be clearly interpreted to the members of the team. The individual team members must firmly embrace the concept of a unique contribution to the team and the fact that the product will be greater because of each person's contribution. The whole will exceed the sum total of all contributions. The project director must clearly delineate the purposes of the team and the responsibilities of its members. Specific tasks, responsibilities and accountability should be assigned to the individual team members with all members aware of the distribution of duties. If one member does not do his share, it makes it harder on the other members.

2. Problems should be anticipated and answered in the planning period before teaching has begun. Additional issues must be acknowledged as they arise to prevent misunderstandings.

3. The team members must be involved jointly in the planning aspects of the program. Planning that is developed as a team is more apt to be supported than if directions come from one person.

4. Diverse backgrounds of the team members help to contribute to the whole, but there must be common and clearly defined goals if misunderstandings are to be prevented. The lines of communication must be clearly delineated and kept open.

5. A head teacher is needed to handle the problems that arise each day. One person is needed in the classroom who is responsible for making decisions and who has the authority to carry them out.

The head teacher should not make arbitrary decisions regarding the program. Except for daily routine matters, major programming changes must be a team matter. The head teacher's position must be that of a committee chairman rather than a director if the team members are to contribute maximally to the program.

The head teacher must not become a dominant member of the team, nor should any other member, although one member may have a more dominant personality. If the team is structured so that specific responsibilities are assigned, many matters of excessive control can be prevented.

6. Team teaching demands a great deal of time for meetings to discuss problems, goals, and coordinate efforts. Such planning will prevent duplication of effort and foster a consistency in child management and goal directed behavior.

B. Selection of the Children

Children who had been excluded from regular programs on the basis of multiple problems were chosen for the practicum. An attempt was made to include different kinds of problems and as wide an area of functioning level as possible. It is believed that many teachers refuse to accept new children into their program not because of a lack of skills, but because of a fear of the unknown. A wide variation in functioning levels was sought so that teachers could learn to accept extremes in the levels of functioning and thereby learn to individualize and program for many levels within a single setting. Multihandicapped children are far from a homogenous group and teachers must learn to individualize to meet each child's educational needs.

Although all of the children had been excluded from a program on the basis of their complex multiple problems, one of which was physical in nature, there was a great range in ability among the children. It is believed that this range of ability coupled with the inclusion of so many types of disabilities incorporated into one teaching setting was the forte of the program. Included among the handicaps were blindness; deafness; deaf-blindness; cerebral palsy; profound, trainable, educable and mild retardation; autism; epilepsy; aphasia; crippling; cultural deprivation; hearing; kidney; orthopedic; both visual and auditory perception; emotional disturbance; and varying degrees of speech problems ranging from non-verbal behavior to mild articulation and stuttering.

When children were referred for admission to the practicum all resources were checked to see if any existing program would take them. Often children could have been more adequately served in the practicum setting but by accepting such children, the local educational settings would have been relieved of their responsibilities in this area. The need is great to facilitate placement for all handicapped children and so only those children thought far from minimal potential for acceptance into a regular program were considered for practicum placement. However, they were still referred to several traditional programs because all facilities should be aware of the large numbers of children without adequate placement.

The children were evaluated when they came into the program. Most had been labeled "untestable," "disturbed", and "retarded" by those who had prior contact with them.

One of the goals of the project was to give students exposure to multihandicapped children from the beginning of their teacher training program because they needed a foundation of evaluation techniques and information on setting up a classroom. Students were involved in the initial contacts and the process for selecting children for admission to the practicum. Attempts were made to examine the children through the use of traditional instruments; Maxfield Buchholz, Frostig, Binet, Leiter, Wechsler Pre-School, Wepman, etc. Practically none of the children was able to perform at a level where these instruments were of value. As the level of achievement rose during the practicum, these tests were used to obtain the scores required by more traditional programs as the requisite for admission.

Emphasis on the use of instruments in testing was stressed to obtain a current level of functioning, or baseline data for programming. Although there were often fantastic gains in IQ points during a child's tenure in the program, these gains were considered only in the light of necessary prerequisites for traditional program admission. Appendix A lists the children who have been part of the practicum classroom setting and the types of handicaps they presented.

Children were entered one at a time. The behavior of each child was under control before an additional child was added. This allowed greater control in the program than in a more traditional setting where the teacher is confronted with various problems at one time and must give priorities to their solution.

No limit was set to the maximum number of children to be enrolled in the program. The children who were the most difficult to handle were admitted first, and others were added until a manageable number had been reached. By using the team teaching concept and by integrating children one at a time into a set program, a higher teacher-pupil ratio was achieved. Eleven severely multihandicapped children was the maximum attained at one time for the three teachers but it was unanimously agreed that this number could have been greater. Other factors, such as planning time with students, kept the number down.

The evaluation of the program could be based on the gains of the children alone. Only one child returned to the setting from which he originated. All the others entered programs of higher entrance requirements than the ones from which they had initially been rejected. Increase in test scores, greater abilities in self care skills, improved communication, motor skills and adaptive behavior and the admission to traditional programs were attained by the children.

To further substantiate the effectiveness of the program, a cost analysis was made of the program relative to the improvement of the children. In the following chart the functioning status of the children is shown as each was admitted to the practicum. The cost of that program is shown compared with the cost of the program they entered when they left the classroom. The age of entry has been subtracted from age sixteen, the compulsory attendance age. Savings have been determined by subtracting the cost of the child's current setting from the cost of his prior one. The total savings of local, state and federal money thus can be determined. Thus, the funding of this program can be justified on dollar savings alone, and if the expenses of the prototype students, operant listening device, in-service work, etc., were subtracted from the cost of the program the savings would be even greater. This program, therefore, can be justified in terms of both intellectual functioning and economic savings.

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The team teaching practicum has thus become a proving ground for those children who continue to be excluded from the existing programs. Although multiply handicapped children now have sources for referral, admission policies continue to discriminate against those with an unproven potential for learning.

C. The Prototype Students

The success of a training program depends to a great extent on the quality of the students involved. An outstanding student can make almost any program succeed if he believes that it can succeed. An attempt was made not to enhance the success of the program by selecting only those students who were over zealous, enthusiastic, or intelligent. The applicants chosen were typical students applying to the George Peabody Department of Special Education: some had an undergraduate background in elementary education, some with both elementary and special education experience, some with no background in education. Some had worked extensively with chidlren and others had experience limited to scouting or church situations. One requirement for all stu-

TABLE

Name	Age	Placement		Difference (16 - age)	Total
		Past	Present		
Bobby Anderson	7	Day Care - CP $1968.00	Regular Class $ 556.00	$ 1412 x 9	$ 12,708.00
Jennifer Atkins	5	Institution - Amb $1007.40	Spec. Ed. Class $ 350.00	650.40 x 11	7,231.40
Diane Covington	7	Day Care - N. Nashville $120.00	Spec. Ed. Class - TMR $ 830.07	710.07 x 9	6,390.63
Kay Dabney	9	Spec. Ed. Class - Deaf $842.50	Regular Class $ 556.00	286.50 x 7	2,005.50
Ronald Edmondson	10	Day Care - N. Nashville $120.00	Spec. Ed. Class - TMR $ 830.07	710.07 x 6	4,260.42
Eric Fizer	9	Central State $14,782.50	Spec. Ed. Class - ED $1,005.00	13,777.50 x 7	96,442.50
Chris Fyke	10	Spec. Class - EMR $555.52	Regular Class (private) $ 250.00	305.52 x 6	1,833.12
Jeffrey Richie Gannon	7	Day Care - CP, Jr.League, Bill Wilkerson $1,968.00	Residential Sch. - TSD $4,350.00	2,382 x 9	21,438.00
James Ghee	12	Institute - NonAmb $4,453.00	Day Care - CP $1,968.00	2,485 x 4	9,940.00
Jimmy Graham	7	Institute - NonAmb $4,453.00	Spec. Ed. Class - CP $1,968.00	2,485 x 9	22,365.00
Andrew Scott Harrington	10	Residential $5,200.00	Spec. Ed. Class - LD $1,005.00	4,195 x 6	25,170.00
Karen Hayes	13	Day Care - N. Nashville $120.00	Residential - TSD $4,350.00	4,230 x 3	12,690.00
Jimmy L. Hunter	8	Institute - NonAmb $4453.00	Day Care - Cloverbottom $1,968.00	2,485 x 8	19,880.00
Victor Hunter	6	Residential Sch. - Blind $5,000.00	Regular Class - Visual $ 845.00	4,155 x 10	41,550.00
Stephanie Johnson	11	Institution - NonAmb $4453.00	Institution - Amb $1007.40	3,445.60 x 5	17,228.00
Glenda Jones	11	Institution - NonAmb $4453.00	Day Care - Cloverbottom $1968.00	2,485 x 5	12,425.00
Dawn LaFlamme	9	Residential Sch. $4,500.00	Spec. Ed. Class - Visual $ 845.00	3,655 x 7	25,585.00
Jonathan Moore	9	Day Care - N. Nashville $120.00	Spec. Ed. Class - TMR $ 830.07	710.07 x 7	4,970.49
Michael Morrell	7	Pre School - Deaf $842.50	Spec. Ed. Class - MH $ 968.00	125.50 x 9	1,129.50
Daniel Ogden	4	Spec. Ed. Class - TMR $830.07	Regular Class $ 556.00	274.07 x 12	3,288.84

Name	Age	Placement		Difference	Total
		Past	Present	(16 - age)	
Kenneth Perkins	6				$
Jennie Pittman	12				
Bret Pugh	7	TSB $5,000.00	TSB $5,000.00	0 x 9	00.00
Matt Reynolds	6	Day Care	TSB $5,000.00		
Gene Roberson	9	Institution - Amb $1,007.40	Residential Sch. - TSB $4,350.00	3,342.60 x 7	23,398.20
Lisa Robinson	5	Day Care - CP $1,968.00	Regular Class $ 556.00	1,412 x 11	15,532.00
Barbara Smith	13	Day Care - Cloverbottom $1,968.00	Spec. Ed. Class - Crip. $ 968.00	1,000 x 3	3,000.00
Bobby Thompson	5	Institution - NonAmb $4,453.00	Regular Class $ 556.00	3,897 x 11	42,867.00
Howard Thompson	6	Institution - NonAmb $4,453.00	Spec. Ed. Class - Crip. $ 968.00	3,485 x 10	34,850.00
Carlton West	6	Residential Sch. - TSB $5,000.00	Regular Class $ 556.00	4,444 x 10	44,440.00
Kelli Woodcock	4	Institution - NonAmb $4,453.00	Institution - Amb $1,007.40	3,445.60 x 12	41,347.20
				Total Savings	405,411.32

dents was that they had some kind of experience with children. No attempt was made to select better students as prototypes. Students were selected at random if they met the basic department admission requirements. Eight of the practicum students were chosen from the master's program. Three of these had liberal arts backgrounds, two had elementary teaching certification, and three had diverse special education experience. The post master (PMA) application qualifications included a master's degree in special education and successful teaching experience. Two of the four prototype PMA students had combined vision and mental retardation experience, while one had a learning disabilities background. The qualifications of the fourth included teaching learning disabilities and the emotionally disturbed.

Students were placed in the practicum setting from the inception of their program. A vertical team was established each year. The lines of communication extended from the project director, through the head teacher and other team teachers, to the PMA students and to the MA students. In lieu of the fact that many of the positions accepted by prior MA graduates of the program had been supervisory, the depth of the team was extended to include undergraduate students. This occurred during the latter part of the preparation period and enabled several undergraduates to receive several weeks of training within the practicum setting. These undergraduates were vision majors who were concluding their programs and who desired contact with multiply handicapped children.

The vertical team model proved especially effective for the maximum utilization of personnel. In the teaching situation, each of the vertical team members spent time initially observing and critiqueing other members of the team. This was done to make certain that their observational techniques were sufficient to pinpoint behavioral objectives. When observing the MA students, the team of teachers wrote their observations on a carbon of the form that the students themselves used for self evaluation. Each day a discussion followed the lessons so that the students and teachers could compare these observation sheets. The evaluation forms used progressively during the practicum experience can be found in Appendix B.

The use of the vertical team quickly pointed out strengths and weaknesses in the students. Close and constant surveillance fostered daily communication with the students and permitted their supervisors to plan quickly the needed direction for remediation and corrective measures. The teaching success of students with handicapped children did not correlate with their success in the supervision of students. Not all members of the vertical team were equally effective as teachers. However, the use of a team permitted their strengths and weaknesses to be clearly visible and permitted maximum development of the students' potential.

The use of directed supervisory experiences was indeed a vital part of the practicum. The total involvement of the prototype students using the vertical team model resulted in their assuming a great deal of responsibility. This enabled the team teachers to participate in a greater number of in-service programs.

The growth of prototype students was judged in several ways: changes in attitudes, improved evaluation techniques, program planning and teaching skills. Video tapes were used for self evaluation and for the instruction of both students and parents. The vertical team gave additional instruction and members were available for feedback.

The ability to effectively achieve specific goals and plan programs in an educational setting was a paramount criterion, and the ability to work effectively with teacher aides, psychologists and parents was also a factor in judging progress. The students developed a consistent, healthy awareness of their efforts by virtue of the criteria checks, self evaluations and observations. At the completion of the program, a comprehensive evaluation was made by the students and the team members together.

The next assessment of the students came from their employers. This judgement was solicited in order to improve the student preparation aspect of the program. Employers were unanimous in their praise of the breadth of training and in the students' working familiarity with the evaluation techniques of all combinations of handicapping conditions. Comments such as "works well on our team," "needs little supervision," "knows what she's doing," and, "send me a dozen more just like her," were remarks made by the employers to the project director. Negative statements were minimal and related to personality factors rather than preparation. One administrator stated that the teacher was trying to make too many changes when everyone knew, "those kids can't learn." Another was critical of a teacher's decision not to return for a second year.

There was nothing in the response from employers that alluded to the varying backgrounds of the students. Liberal arts, elementary or special education backgrounds or prior experience were not factors of employment and the types of positions offered were varied. The team of teachers reported similar impressions; aside from basic admission requirements, background was not a significant factor in working successfully with multihandicapped children. The one year program allowed enough training and contact with a wide variety of children and this enabled the student to succeed with the children, even though there may have been no prior educational preparation.

The students were asked to evaluate the program at the termination of their year's training and again in retrospect at the conclusion of the four year grant period. The twelve prototype students were asked to a one day retreat to evaluate the program in view of their experiences and to make recommendations for improvements.

Discussions centered around these points:

1. Would you go through the program again?
2. Did the program adequately prepare you for your present position?
3. Discuss team teaching as it relates to:

    What was the most value gained from the team teaching?
    Your willingness and eagerness to teach in such a situation
    Your participation or role as a team member
    Your reaction to the situation during your preparation period

4. What deficiencies or inadequacies did you feel during the first year of your position?
5. Did you have problems with teaching certification?

Eight students attended the retreat. Three of those unable to attend were from the current graduating class and so it is believed that those who could contribute the most were present, i.e., those who had been in the field for one or more years.

Reaction to the program was varied, but was, for the most part, very positive. The students unanimously agreed that they would repeat the training program and they believed that the training prepared them for their positions. The responses to the question "What aspect of the practicum was of the most value?" varied considerably. The variations in these answers illustrates the strength of the team teaching situation. Each student gained from the team of three teachers that which was most meaningful and conducive to personal growth. There were eight different answers to the question; and included the emphasis on curriculum skil~~ls~~, pertinent advice, model teaching behavior, exposure to techniques, explanations of actions, academic information, emotional support, and the communicative value of feedback support. All but one of the students were extermely enthusiastic about using the techniques of team teaching. The lone dissenter believed these were not germane to his particular needs, but did want the team approach available for students in preparation. Each student enumerated the specific and varied contributions that he could make to the team approach. All participants mentioned the almost unlimited combinations of academic, emotional and social opportunities created by use of the team approach.

When asked for the program deficiencies, the answers again varied according to the individual and the nature of his employment. One wanted more work with infants; one wanted a course in sign language offered for credit through the college rather than non-credit through the League for Hard of Hearing. Another wanted more diagnostic testing experience and yet others voiced no criticism.

The most valuable and least valuable aspects of the program as seen by each participant after a year or more of teaching differed from those they observed and recorded at the termination of each year's program. The first year terminus criticism was directed at the emphasis placed on child development, the breadth of training instead of in-depth training with a few specific children and types of handicaps, and of the emphasis on task analysis and programming. However, the post employment evaluation mentioned these same emphases as the most valuable experiences relating to the needs of successful teaching. Therefore, it seems that the evaluation of the training program should be delayed at least a year before changes should be considered in the content of the program.

On the whole, the evaluation of the retreat participants was positive. Suggestions were made regarding specific changes that effect the total graduate program, i.e., graduation requirements, research requisites, department regulations, etc. These recommendations have been discussed with the Graduate Dean of the College and with the Department of Special Education faculty members in individual, small group, and total faculty meetings.

II. Work with Psychologists

Many multihandicapped children are diagnosed and labeled retarded because the psychologists evaluating them are unable to use traditional instruments to measure them. On the assumption that closer personal contact and a supervised testing experience would allow diagnosticians greater knowledge of handicapped children, several experimental, clinical and school psychology students were involved in the practicum situation.

Dr. Norman Buktenica, coordinator of the Peabody College school psychology training program, coordinated these efforts. The team teaching practicum was designated as one of the placements for his students. He evaluated the children for demonstration purposes and gradually withdrew his active participation so that his students were able to examine the children without preconceptions about their educability. Certain children were assigned to specific psychology students for intensive work in diagnosis, the counseling of parents, therapy, etc.

The evaluation by the psychology students has been very favorable. The graduate assistants have stated that they received various benefits by being associated with the team teaching practicum: supervised testing, contact with varying types of exceptionalities, counseling with parents and writing reports were some of them.

The students stated that it was a particularly valuable experience in terms of learning to communicate with non-verbal children. They were interested in developing instrumentation for the children and felt that such development gave them true insight into specific tasks that designated learning potential, rather than judging current level of functioning. Work with parents was said to be of particular benefit and the open staffings that were held with parents present was particularly useful. The psychology students were enthusiastic in relating that the assistanceship within the practicum was particularly useful to those who lacked field experience. The interviewing techniques, counseling, testing, and the work with often-neglected children is now recommended for all school psychology students.

Attempts have been made to create an evaluation instrument especially for multihandicapped children. Lack of time for concerted efforts in this direction has thwarted Dr. Buktenica, although future commitments have been made for such a complication effort; and a grant request has been submitted with this in mind.

Dr. Carl Lappin, a Vanderbilt University psychologist also involved his experimental psychology students in the practicum. They were particularly useful in helping to develop and test teaching materials for multihandicapped children. This interest by Dr. Lappin resulted in a funded project for developing means of communication for non-verbal and low-verbal multihandicapped children.

III. Work with Aides and Others

The work with aides and other paraprofessionals who may be in charge of programs for multihandicapped children was accomplished in various ways. Aides have entered the classroom to observe and have participated in class work for varying periods of time. They have brought problem children to the practicum for demonstrations or they have had demonstration teaching performed by the team teachers in the aides' own program. These various types of programs will be discussed under In-Service Training.

IV. Work with Parents

Parent education was deemed a distinct and integral part of the program. During the pilot program, parents met as a group two days a week under supervision to receive information and instruction. On Monday, the project director met with the parents to discuss the goals for each child for the coming week and how the parents could help achieve these goals. Behavior modification booklets were given to each parent and the group discussions centered around some of the principles therein. The large observation room was sometimes used for these meetings so that the parents could see the techniques used by the teachers and graduate students in reaching these goals. Video tapes were used to teach other procedures.

The parents met on Friday in another building that was equipped to handle blind adults. A teacher with considerable experience teaching blind children worked with the parents on such topics as attitudes, the development of materials to be used at home with the children, the benefit of parent groups, appropriate toys, talking with the children, etc.

During the subsequent years of the practicum the parent training program operated with varied approaches in order to find the most effective means for educating parents. Working mothers were a problem because an attempt was made to involve the parents on a regular basis during the hours the practicum operated. The twice a week meetings were dropped and weekly parent meetings were held in another building away from the campus. The parent consultant attended the Friday planning meetings and observed at other times during the week. She discussed the child with the parents while taking over matters such as selecting toys for the children, behavior management, family planning, acceptance of the handicapped child, etc. (Appendix C) Although the parents were responsive to this type of program, their feedback was more positive when they were allowed to visit the classroom and then had the teachers visit the home. Eventually, all the team members were involved with the parents. The teachers found this to be a more effective means of demonstrating to parents the ways of helping their children. The classroom visits by parents were very productive in demonstrating and teaching specific techniques; and the home visits pointed out the targets of behavior for the teachers to work on in the classroom.

Experience in the practicum project illustrated points to be considered in establishing a parent program that will assure optimum results.

A. Some Counseling and Direction is Best Given in a Group Situation

1. A beneficial catharsis results because other parents are willing to share similar experiences and guilt feelings. This can be acquired in no other manner.

2. The sharing of problems and the ways in which each family has attempted a solution is important. Each has succeeded in certain areas and can contribute in others. And, most important, the suggestions are not made unilaterally by an authority figure.

3. All families have some problems in common. The best expenditure of time was to utilize the group method to cover general problems and individual meetings for unique problems.

4. Many parents are tied to the home because of their handicapped children. A "day out" becomes important for their mental health. A group situation can be particularly helpful in this regard.

B. Classroom Visitations are Important for Imparting Particular Information

1. Specific techniques in use with the children can be demonstrated. Although a knowledge of abilities and achievements had been imparted to the parents through observations, discussions and video tapes, they had not adequately followed through by expecting these behaviors in the home. Therefore, involving parents directly in the classroom, one at a time, permitted them to follow their children from teacher to teacher. Specific directions and techniques were given to the parents and both the child's teachers and parent teachers then made home visits to see how the parents were carrying through with recommendations.

2. The parents have the opportunity to view their children in relation to other children with similar problems. This prevents and overcomes some of the rationalization of behavior that parents may engage in because of the handicaps.

3. The parents have the opportunity to see their children over a period of time in a structured situation.

4. The children can be observed interacting with various members of the team as well as with the other children.

C. Home Visits are Essential for a Comprehensive Parent Program

1. Some behavior of the children can be observed only in the home.

2. Each home has unique conditions that must be considered when programming for a child and counseling his parents. Only by astute observation in the home can the parent teacher be effective.

Experience with parents has demonstrated the need for giving parents the specific methods for dealing with their child. General counseling is not enough, because parents feel they need to know "how", not "what" to do. The parent manual developed in the practicum helped the parents to be aware of the next step in working with their children. It was also used to record progress. Parents have reported that the charts were of particular help to them in showing that gains, even small ones, had been made.

D. A Concerted Effort Should Be Made to Involve Fathers in the Parent Program.

Home visits resulted in acquiring excellent information regarding the extent to which parents were carrying through with techniques learned through parent meetings and in the classroom. Of particular value were the visits scheduled during hours when the fathers were at home. Concerted efforts were made to involve the fathers in management of their children for it was learned that the fathers (foster and step fathers included) were often more capable in this area than the mothers. The fathers were often more directly involved and assumed more responsibility for the children than the mothers. Inclusion of the fathers achieved a more unified approach and assured less inconsistency of direction; the latter considered essential for success with multihandicapped children. One of the suggestions for work with fathers was to include a fathers' night in the parent education series with the program presentation including only males and especially fathers of handicapped children. One of the noticeable problems of the children in the program was the lack of natural fathers in the home. The presence of a handicapped child often led to marriage problems which were resolved by divorce. Step-fathers in the home accepted the children but they were minimally involved. A fathers' program can help in this area.

The parents who evaluated the program noted that they had gained particular insights into the handling of handicapped children. Some of the parents participated more than others. The more educated parents were in weekly attendance. The less educated parents were there intermittently. It was stressed at the beginning of the program that all parents who had children in the practicum situation must attend weekly sessions. However, the intermittent attendance for some seemed to be a part of their whole way of life. An examination of the medical history of the children indicated that the parents who did not attend on a weekly basis were also the parents who frequently missed medical appointments for their children. Those who did attend were careful in completing their assignments. Whether or not the lack of assignment completion prohibited them from attending the meetings, if it was a lack of relevance, or if it was their general way of life is not known. The parents gave few comments about this attendance in the evaluation of the program.

E. Work with Parents of Very Young Children

Initially, the team teaching practicum was designed for work with children from three to nine years of age. After the first year of operation it was clear that three years of age was too late to begin with some children and that three valuable education years had been lost. A parent teacher was employed by the project to go into the homes of children that were referred by the Birth Defects Clinic at Vanderbilt Hospital. As originally designed, matched pairs would be evaluated to determine the effectiveness of the parent teacher. Matching proved to be an impossible task so this effort was dropped because identical defects did not result in identical handicapping conditions or levels of functioning. The children were then evaluated in terms of gains made in comparison with the gains made by similar birth defect children who had not had the services of a home teacher.

Table 2 indicates the progress made by children in the parent-intervention project. In general, these children have made some gains from test session to test session. The one case in which there is a sharp disparity between testings (child 4 lost 3 months between tests 4 and 5) is primarily due to the visual requirements of the Bayley Scale. This child lost his vision between the tests.

Gains are less apparent if one examines the DQs directly.

Children	Test 1	Test 2	Test 3	Test 4	Test 5
1[a]	106	100	110	IQ-101	IQ-106
2[b]	66	69	90		
3	92	86	122	118	
4[a]	106	109	120	134	93
5	59	< 50	59	67	73
6	96	125	109		
7	108	100	100	88	77
8	<50	<50	54	<50	50
9	<50	<50	<50	<50	50
10	70	72			

TABLE 3

Chronological Age (CA), Mental Developmental Quotient (DQ), Time Between Test Administrations and Months Gained for Children in Parent Intervention Program

Children	CA at time of initial testing	Initial Mental Develop. Quotients	Months Between 1st and 2nd Administration	Months Gained	Months Between 2nd and 3rd Administration	Months Gained	Months Between 3rd and 4th Administration	Months Gained	Months Between 4th and 5th Administration	Months Gained
1	13m 16d[a]	106	4 months	3.0	6	7.5	4.5	IQ101	2	IQ-106
2	5m25d[b]	66	4 months	3.1	4	5.5	--	--	--	--
3	2m22d	92	4 months	4.0	3.5	5.5	2.5	2.5	--	--
4	7m18d	106	4 months	5.0	6	6.5	3.0	6.5	3	-3[c]
5	16m25d	59	4 months	1.5	3.5	2.0	4.0	4.0	2	1.5
6	9m23d	96	3 months	5.5	2.5	--	--	--	--	--
7	10m	108	4.5 months	3.0	3.5	5.5	4.0	1.5	3	.5
8	15m5d	< 50	2 months	1.5	2	3.0	5.0	1.0	5	1.0
9	15m	< 50	4.5 months	--	4	--	4.0	1.0	3	1.5
10	2m18d	70	4 months	4.3	--	--	--	--	--	--

a. Child given the Binet after reaching ceiling on the Bayley
b. Child died at age of 15 months
c. Child lost most of his vision between 4th and 5th testing

Scores for the first three tests administered to subjects 1 through 9 were analyzed using a single-factor repeated measures design with orthogonal comparisons. Though the sample may not meet the assumptions necessary for the F test, the statistic is a robust one and the analysis - even for such a small sample size - is more sensitive to differences than non-parametric alternatives (Boneau, Norton). The results of this analysis are given below. A, A_2, A_3 denote successive administrations of the tests.

TABLE 4

Analysis of the First Three Tests

Source of variation	df	(Sum of Squares) SS	(Mean Square) MS	F
Between tests (A)	2	452.6666	226.3333	2.7392
Between Subjects (S)	8	16,755.3333	2094.4166	25.3484**
Tests x Subjects (AxS)	16	1,322.0001	82.625	
Total	26	18,530.0000		

Orthogonal comparisons Hypothesis	N Ex_y	A 9 733	A_2 9 739	A_3 9 814	SS	F
$M_{A_3} = \frac{M_A + M_{A_2}}{2}$	X_1	1	1	-2	450.6666	5.4543*
$M_{A_2} = M_A$	2	1	-1	0	2.0000	.0242

* Significant at .05 level
** Significant at .01 level

Though the over-all test for differences between test means is not significant when variance is analyzed via orthogonal comparisons F=5.4543 is significant at the .05 level.

Hence we can conclude that these children performed significantly better on test 3 than on the preceding two tests. No such differences exists between tests 1 and 2.

A similar analysis for the set of 6 subjects who have completed four testings does not result in a significant F ratio between tests though the means are in the expected direction.

TABLE 5

Analysis of the First Five Tests

Source of variation	df	SS	MS	F
Between tests	3	467.1667	155.7222	1.7133
Between subjects	5	18,165.3334	3,633.0666	39.9726**
Test x subjects	15	1,363.3333	90.8888	
Total	23	19,995,8334	3,879.6776	

Orthogonal Comparisons		A	A_2	A_3	A_4	SS	F
Hypotheses	Nj	6	6	6	6		
	Exj	465	445	505	507		
$MA_4 = \frac{MA + MA_2 + MA_3}{3}$		+1	+1	+1	-3	156.0555	1.7169
$MA_3 = \frac{MA = MA_2}{2}$		+1	+1	-2		277.7777	3.0563
$MA = MA_2$		+1	-1			33.3333	.3667

In both sets of analyses the differences between subjects are significantly different at the .05 level.

Because of the nature of the population under study it was not possible to identify a control sample matched on the basis of both birth defect and DQ. It was, however, possible to gain access to records of children who had been tested at least three times at fairly regular intervals and who were diagnosed as birth defects, but who did not enter the parent intervention projects. For these children CA's and DQ's and months between testing are given on the next page.

TABLE 6

Control Sample: CA, DQ, Time Between

Children	CA at time of initial testing	Initial Mental Develop. Quotients	Months Between 1st and 2nd Administration	Second Mental Develop. Quotients	Months Between 2nd and 3rd Administration	Third Mental Develop. Quotients
1	3m8d	65	2.5 months	75	3.5 months	96
2	3m29d	70	7.5 months	80	11 months	82
3	6m8d	60	6.5 months	54	5 months	51
4	4m12d	100	8 months	100	7 months	100
5	1m25d	87	2 months	83	4 months	78
6	2m5d	78	1 month	60	1 month	50
7	27d	90	2 months	90	10 months	100
8	26m10d	60	6.5 months	60	8 months	60
9	4m28d	95	5 months	94	9.5 months	84

Number of months between testing is rounded to nearest half month.

A direct comparison of the children in the program with this second set of children is clearly inappropriate. But the second group can be used to indicate changes which may occur among children diagnosed as birth defective. Though there is a significant difference across subjects, there are no significant differences between the performances of children across the three tests. The sum of squares for test effects is so small that any orthogonal comparison would also lead to a non-significant F ratio.

TABLE 7

Control Group: Analysis of the First Three Tests

Source of variation	df	SS	MS	F
Between tests	2	4.2963	2.1481	.0285
Between subjects	8	5,996.0741	749.5092	9.9516**
Tests by subjects	16	1,205.0371	75.3148	
Total	26	7,205.4075		

** Significant at .01 level

A primary caution in regard to any of the above analyses is that we are dealing with a very special population of children. Between any two tests there may or may not have been physical trauma due to routine shunt revisions, illial loops, loss of vision, cardiac surgery, etc. The person administering the test also may or may not have been able to overlook physical anomalies. Parents may or may not have followed up on training suggestions. The clinical evaluations of the home teacher and parents' perception of the child's development thus should be given primary consideration in gauging program effectiveness.

The parents were unanimous in their praise of the home teachers. Because of the enthusiastic response following the first home teacher, a second was added for the final year of the program. The growing emphasis of working with parents, particularly at the preschool level warranted this addition to the team of teachers and allowed greater breadth of training for the prototype students, psychologists, and aides. Many positions of this nature are now available and the training aspect of the parent program was extremely valuable. Each of the prototype students followed a family, accompanying the parent teacher, where both father and mother, if available, of the children were involved with the program. This phase of their preparation was appealing to the prototype students. Each has related that the information gained during this process has exceeded that acquired from references and the classroom. Although knowledge of child development and counseling techniques has been valuable, problems arose that the parent teacher alone was able to handle. Statements such as "How could you know what I've been through? You've never had a handicapped child. In fact, you're not even married," have been made. Alcoholics, bigots, psychotics, and lazy and apathetic parents have been encountered and the students have observed the parent teacher in her work with them. A knowledge of community resources has been gained by working with the parent teacher. Some of the parents now have a public health nurses or welfare workers assigned to their cases because of the teachers. Still others have received comprehensive health care beyond that offered by the Birth Defects Clinic.

Work with parents has also given information on the most effective way to program for the children. The increase in test performance by the children is attributed to specific efforts by the home teacher. After the children had been evaluated in the Infant Evaluation Clinic at Peabody, an analysis of the test results was made. Appendix D is a master's thesis which was developed during the project to ascertain the needs of the children. Items on the Bayley Test were grouped according to the functions necessary to fulfill those needs: eye-hand coordination, following an object visually, reaction to sounds, etc. An investigation of the types of missed items gave the home teacher base line level information and an idea of the specific tasks necessary to develop needed skills. A library of toys had been collected so the teachers could then select a toy appropriate for developing a particular skill. The teachers left the toy with the parents after first showing its use with the child and having the parent demonstrate that they knew what to do and how to do it. The following week another toy was selected and taken to the home.

Receiving specific assignments was highly valued by the parents. In their evaluation of the program, the parents recommended nothing to improve this phase other than begin it as soon as the child was born.

One of the teachers received automatic referral of birth defect children, and her case load was composed of very young children. The other teacher's teaching load was obtained through other referrals. This source variance was effected deliberately so that the prototype students would be exposed to the various ways of obtaining children for a program, and to acquaint them with resources in the community. The latter procedures were often later referrals, and the parents of these children felt the loss of early help.

Children enrolled in the program and the problems they presented can be found in Appendix E.

An attempt was made to evaluate the attitudes of the parents toward their children. As work progressed with the parents it was found that the attitude scale was of little use, that parents responded as they felt they should respond, i.e. in an accepting manner instead of with their true sentiments. As stated previously, the parents were unanimous in their enthusiastic support of the program. Several letters were written protesting the termination of the project and attempts are being made to continue it under other funding, even though each of the children has been referred to other programs.

Favorable parental comments related to the assistance to the total family, the guidance in selection and use of toys, the emphasis on mother as the child's first teacher, the answers to puzzling questions, the patience and interest of the teachers, the giving of information (what to do and how to do it) and the opportunity to meet parents with similar problems.

Of particular interest are the observations of the home teachers. Both of them found that approximately ten children was the maximum number they could handle on a regularly scheduled basis. This was in addition to the children in the classroom who were seen less routinely because of the involvement of other team teachers in home visits. Both teachers reported that working mothers were a problem because they were not the ones most involved with the children. Visits to these homes had to be scheduled evenings and on the week-ends. Some working mothers were too tired at the end of the day to work effectively with their children. Both home teachers were amazed at the number of parents with problems of acceptance, depression, despair and of the financial drain caused by the children. Neither teacher reported a cohesive family where both parents and siblings were well-adjusted and able to accept and work with the handicapped child. Emotional problems were common to both parents and marriages had often broken up, seemingly by the stress caused by the child's presence. For other couples, the marriage was more of a token relationship than a joint effort. The advice, "should I leave my husband?" was frequently sought; although the teacher role was to educate the children rather than counsel parents on psychological problems. Frequent referrals were made by the teachers for counseling.

Work with the children seemed to improve relationships within some of the families. Gains by the children which could be directly attributed to parental intervention were viewed with just pride. A realistic appraisal of the child's abilities enabled his parents to accept him. Involving siblings in the teaching tasks gave them a sense of interest and sharing that often had been denied them. The enthusiastic response of parents of the very youg children would alone justify the existance of the program.

One problem encountered should be mentioned for those interested in training home teachers. A male student accompanying the home teacher was not welcome at two homes because of the reactions of the husbands. Although himself married and accompanied by a female teacher, the mothers would not admit him unless their husbands were at home. Thus the male sex worked to advantage during the father's meetings but to disadvantage during regular visits.

V. In-Service Training

The team members and prototype students were all extensively involved with in-service training for those persons responsible for the care and education of multihandicapped children. This included teachers, parents, social workers, psychologists, counselors, aides, physicians, medical students, house-parents, physical and occupational therapists, public health nurses, and student nurses. A series of workshops and in-service training programs were carried out not only at Peabody College but for personnel in Arizona, Colorado, California, Florida, Georgia, Illinois, North Carolina, New Jersey, New York, Oregon, Pennsylvania, Tennessee and Texas. Hundreds of visitors observed the classroom. Brief talks were given on the philosophy of the program. Specific information was furnished on techniques being used. An introduction to precision teaching was given to many, and graphs were shown demonstrating its usefulness. Participation in the program was available for those who requested it.

The workshops were of one day to six weeks duration. The shorter programs included an over-view of multihandicapped children, the problems they present, sources of help, and suggested management techniques. Appendix F gives a sample program that was presented in Florida.

The shorter workshops were often presentations. Others were demonstrations of work with multihandicapped children. Sometimes there was a demonstration with simultaneous explanation and in others there was a presentation followed by a demonstration. Team members believed that presentations were more effective if they were combined in some way with a demonstration. In this way principles espoused could be immediately applied.

Other in-service training consisted of a series of four, two-day demonstration teaching and consultations. The emphasis was placed on each of the four curriculum areas of the practicum: self-care skills, motor development, adaptive behavior, and communication skills. The project director handled self-care skills while the team members each assumed responsibility for their teaching area of emphasis. Two graduate students accompanied each team member on his visit. The students were responsible for part of the formal presentation and for some of the demonstration teaching. They also answered questions and had the team members there to field any questions they were unable to answer.

The students related this as a very valuable experience. They felt capable of going into a new situation seeing deficiencies in the organization and activities, and helping program corrections. They felt very confident with the team members present. It is believed that this supervised type of experience was most valuable because of the similar kinds of situations that former graduates of the program have encountered.

Another example of in-service work carried out by the team was that of teaching parents to handle their own children. The parents children were brought into a central point for a three day week-end or a five day week and parents were instructed in particular techniques for the management of their children, largely through demonstration. The individual team teachers and prototype students showed the technique to the parents while explaining the rationale. Then the parent was asked to demonstrate the same technique. Support was given to the parents while they were being trained. This support appeared to be essential if the parents were to effectively work with their children.

After the parents were able to demonstrate proficiency in teaching their child, they were given a program to implement at home. A month later, if possible, the parents met for a follow-up workshop to show their skills in carrying out their assignments. The parents stated that these workshops have been their most helpful encounters with professional personnel and they wished they could have had earlier assistance of this nature. The ages of children enrolled in these programs have ranged from 14 months to 8 years of age. Thirty-eight children and their parents have benefited from this part of the in-service training.

An additional type of in-service program was a two week preparation period conducted with personnel trained in one area of special education but who would be assigned multihandicapped children. The two week presentation and discussion period was followed by a four week participation period with children. A summary of this program can be found in Appendix G.

The lasting effectiveness of the in-service phase of the project remains to be seen. Several programs are now successfully operating using team teaching or some modification of it as a model.

VI. Preparation and Evaluation of Teaching Materials

Practicum experiences should acquaint students with a wide range of materials and their use. Because materials for multihandicapped children must serve many functions and teachers must be versatile in their use, the selection and use of materials was an integral part of the program. After children are taught things dictated by the materials available rather than choosing materials based on the needs of the child. Teachers have confirmed this fact, and also that they have ordered materials and equipment often spending their total budget on inappropriate articles, before they knew the needs of the children. To prevent this from happening, time was spent in discussion the uses of materials, the versatility of each, and ways in which various concepts could be developed through use of various kinds of teaching techniques.

Each of the graduate students completed the creaton preparation of a teaching materials, and evaluated its effectiveness by using precision teaching techniques. The Printing House for the Blind, the Southeast Media Center for the Deaf, and the SEIMC have been contacted regarding these materials. Directions for producing and the teaching sequence for using these teaching materials have been distributed to visiting teachers, members of in-service training programs, and to classes interested in instructional materials. The Michigan State University Special Education Instructional Materials Center has been sent this information because of their request for materials found effective in working with deaf-blind children. (see Appendix H)

Additional materials were developed and used in the homes and in the parent-child workshops. These were constructed from coffee cans, egg cartons, shoe laces, and other materials that could be obtained free or very inexpensively. Parents were asked to develop a teaching materials from something already in the home. They were then requested to demonstrate additional uses, how it was constructed, and the cost. This was very effective in involving parents and was successful in alerting them to ordinary occurrances in the home that could be used for teaching their youngsters. An addition outcome of the materials production was the prefiously mentioned grant to Dr. Lappin for development of a communications method. This was a result of Dr. Lappin's students being involved in some of the charting of the materials produced for concept development, and because of charting involving the operant listening device.

VII. Cperant Listening and Auditory Testing

During the pilot study for the program borrowed equipment was used to initiate operant testing of the children's hearing. Thresholds were obtained on three children who previously had been judged "untestable." As a result, a prototype operant listening device was developed in an attempt to see how much children could be taught to use their residual hearing. Four sounds were initially used in developing the instrument: a bell, drum, whistle, and clacker. These four auditory signals were analyzed for overall intensity and for acoustic spectrum with an artificial ear equipped with an octave band filter complement. The measurement results indicated that the overall intensity was equal across the four stimuli. The results of acoustic analysis by octave band measurement showed that, although there were energy peaks in each stimulus, acoustic energy tended to be spread across the spectrum evaluated. The bell, whistle and clacker showed a tendency toward energy concentrations in the 1000 through 4000 Hz range, whereas the drum had greater energy in the lower frequencies.

The limited overall energy of these auditory stimuli presented a problem with their use in auditory training with hard of hearing children. For the stimuli to be just barely audible, the child had to have hearing thresholds no poorer than about 70dB and to hear the stimuli at a comfortably loud level would require thresholds no poorer than about 40dB. Therefore, amplification of the stimuli was necessary.

The four stimuli were recorded and the sounds placed on continuous loop tapes and played through earphones on a calibrated amplifying system.

These stimuli were paired with tactual stimuli composed of four grades of sandpaper silhouettes representing the four stimuli: drum, whistle, clacker and bell. These figures were placed on a desk with uniform lighting coming from beneath so that the students could obtain a maximum visual input. Thus the device made use of a multisensory approach: auditory, visual, and tactual.

Presentations of the stimuli, delivery of rewards, and the recording of responses were automated. Compressed air was used for the power source to prevent any electrical shocks from occurring.

Initial trials with various children in the classroom indicated a good response and specific listening programs were developed for two of the children. These children quickly came under stimulus control and were making good progress in the use of their hearing. Auditory inputs were initially well above threshold and then gradually reduced in an attempt to make the children use their hearing as much as possible to get their rewards. A four tray automatic dispenser allowed various types of reinforcers to be given and prevented satiation.

Work progressed well with the two children but was interrupted when one went into the hospital for orthopedic surgery and a subsequent extended stay at the Junior League Home for recovery and therapy. The second child died at about the same time and so the program was not continued. However, enough was learned with the prototype model to believe that this type of program is warranted and feasible to use with severely involved multihandicapped chidlren.

Subsequently, the prototype machine was dismantled and with the aid of college funds, another machine was built. By using information gained from the prototype testing and teaching, an apparatus was constructed to evaluate the level of hearing of difficult to test children. One of the doctoral students in the department has undertaken this study for his doctoral dissertation. The proposal for the study can be found in Appendix I. This work is currently being completed.

Use of the operant listening and testing device has demonstrated that it can be effectively used to evaluate the hearing of difficult to test children as well as to stimulate the use of residual hearing. The large number of non-verbal blind children whose pure-tone hearing tests indicate normal hearing but whose response to speech is similar to the profoundly deaf would seem a particularly potential source of study for such a technique.

VIII. Development of the Manual for Parents and Teachers

Peabody College has had an evaluation for deaf-blind children where the children and their families are brought in for a week of evaluation and waorked with intensively. The parents who are brought to this program frequently lament that they have been told by others to toilet train their children, get them eating solid foods, teach them to dress themselves, etc., and yet have never been told how to accomplish these things. As a result of these experiences with parents and also because of the comments of teachers during the in-service programs, a procedures manual has been developed which deals with the how of teaching severely handicapped children.

The manual initially followed quite carefully the four areas of teaching instruction in the classroom: self-care skills, motor development, adaptive behavior and communication skills. As the manual evolved, it became more difficult to separate the sections. Naming and pointing to body parts could be used to develop communication, concepts, or motor skills. Consequently the areas are no longer as clearly defined.

A task analysis approach was used in developing the manual. It was found that all the children could learn if the steps were simple enough. It was also discovered that the learning period for the task was shortened by working in back of the child with the teachers hands over his hands and manipulating him through the stages. Allowing him to perform the task stages that he could, and managing him through those he had difficulty with, permitted a sequential learning pattern and often produced very quick results in the self care area particularly. Many children who had never eaten solid table foods were not only eating them but were feeding themselves within five days.

Difficulty in reconciling the differences in philosophy between oralists and manualists was encountered when developing the communication section of the manual. It was believed that not all of the children would be oral and so both oral and manual techniques were included. The absence of symbolic behavior by the time the child was ready for regular classroom instruction was the indicator used for teaching the child to sign.

It should be noted that manual communication often facilitated oral speech. Children who had been enrolled in oral programs and then excluded from them enlarged their oral vocabularies considerably within a short period of time after exposure to manual communication. It is believed that this would be a good area for further study because of the high incidence of this experience.

Many people participated in the development of the manual. Suggestions and task analysis were made by the team of teachers, the deaf-blind evaluation coordinator, students, parents, and in-service teachers. Evaluation of these suggestions and analysis was accomplished through work with the children. Many editions of the manual were duplicated, tried, and rewritten. Over five hundred copies of the manual were distributed during the project. Three publishers have expressed interest in the manual and efforts are currently underway to publish it because of the interest and lack of similar materials. A copy of the current revision can be found in Appendix J.

IX. Evaluation of the Program

Each component of the total program has been evaluated and reported above. However, it is believed that some mention should be made of the total program and its effect on the teacher preparation program in multiple handicaps.

The actual setting with children gave students realistic knowledge about the types of children and the problems which would be present in their professional settings. There should be fewer teaching "drop-outs" as a result of the contacts within the practicum experience. All of the students trained as prototypes are currently working in the field.

Difficulty was encountered in running two programs, the traditional and the prototype. Although there were two training programs running simultaneously, the two cannot be compared because the team effort proved too effective. The project attempted to use an imaginative approach to the students and children. When something was tried and provem effective, it was incorporated into the regular training program if possible. The special project thus became a pilot instrument for the regular preparation studies.

An example of this is the "Seminar in Multiple Handicaps." The first year prototype students had field work experience with a variety of workers who had contact with the children in the classroom - social workers, psychologists, medical personnel, public health nurses, etc. They also had experience with a wide variety of evaluation instruments. They were enthused about their work and constantly talked about it. The regular students then asked if similar experiences could be arranged for them. Evaluation by the first year prototype students as to significant experiences were thus incorporated into the seminar for all MH students during the second year. It is difficult, if not impossible, to compare the effectiveness of one program with the other when one has had such an influence over the other. One can only rationalize it by saying that there has not been the proverbial thirty year delay in implementing findings, although it does make evaluation of the practicum most difficult.

The students themselves were aware that the one preparation program was superior to the other. Students on regular fellowships asked the project director and team teachers how candidates were chosen and requested transfer to the prototype category. The students, then, on an informal basis evaluated the programs and believed that all students should be incorporated into the prototype model. Prior students, when evaluating the effectiveness of the regular program, have clearly stated their recommendations to include the activities of the prototype students.

Formal evaluation is difficult, but the goal of the team teaching practicum was to provide better ways of preparing students in multihandicaps. Short term judgment has proven its effectiveness. Long range results has yet to be ascertained. The special education faculty is enthused about it and the project director is convinced that the use of the team with a non-categorical approach is extremely productive in teacher preparation and for working with excluded multihandicapped children.

Efforts are currently underway to continue the team teaching practicum within the confines of the college so it may be used for teacher preparation in multihandicaps. A grant has been written and submitted through the Metropolitan Nashville Public Schools Department of Special Education to the Tennessee Department of Special Education. Negotiations are in progress as to whether this should be funded as a special class with funding to be renewed each year or whether it might be better to fund the program as a class in multiple disabilities with a special waiver of the average daily attendance requirement. Parents of children in the program are actively involved in promoting its continuation. One of the team teachers has applied for the position as head teacher. Three students who graduated from the preparation program have also applied for positions. The Department of Special Education at Peabody has requested space in the Kennedy Center and one of the faculty members has requested the responsibility for its supervision and the research aspects. The program then has been worthwhile enough to warrant concerted efforts for its continuation.

BIBLIOGRAPHY

Boneau, C. A. The effects of violations of assumptions underlying the test. *Psych Bull*, 1960, *57*(1).

Bucknam, F. G. Multiple-handicapped blind children (An incidence survey). *International Journal for the Education of the Blind*, 1965, *15*, 46-49.

Cruickshank, W. M., & Trippe, M. J. *Services to blind children in New York State*. New York: Syracuse University Press, 1959.

Ediger, M. Team teaching and the schools: Advantages and disadvantages. *High Points*, 1965, *47*, 55-57.

Fraenkeland, R., & Gross, R. E. Team teaching: Let's look before we leap. *Educational Digest*, 1966, *32*, 4-6.

Glenn, E. E. Plan ahead for team teaching. *American School Board Journal*, 1967, *154*, 33-36.

Goodlad, J. I. Cooperative teaching in educational reform. *National Elementary Principal*, 1965, *44*(3), 8-13.

Lowenfeld, B. *Multihandicapped blind and deaf-blind children in California.* A Report Submitted to the California State Department of Education, Division of Special Schools and Services, 1968.

Norton, D. W. Unpublished Ph.D. thesis in education, University of Iowa, 1952. An empirical investigation of some effects of non-normality and heterogeneity on the F-distribution - as reported in *Design and Analysis of Experiments in Psychology and Education*. E. F. Linquist, Houghton, Mifflin Co., 1956.

Rahner, J. M. Team teaching in the elementary schools. *Education*, 1965, *85*, 337-341.

APPENDIXES

A. Classroom Children and Their Handicapping Conditions

B. Evaluation Forms

C. Work With Parents

D. Use of the Bayley Test with Multi-handicapped Children

E. Infants in the Home Teaching Program

F. A Florida In-Service Workshop

G. A Pennsylvania In-Service Program

H. Materials for Multi-handicapped Children

I. Proposal for Operant Audiometry with Difficult to Test Multi-handicapped Children

J. A Manual for Parents and Teachers of Severely Handicapped Children

APPENDIX A

CLASSROOM CHILDREN AND THEIR HANDICAPPING CONDITIONS

APPENDIX A

Children Age 3 - 9

Types of Handicaps

Children	Crippled	Vision	Hearing	Brain Damage	Behavior	Functional Retardation	Cultural Deprivation	Learning Disabilities	Speech	Seizures	Cardiac
Ja	X	X		X		X		X	X		
Gl	X	X		X	X	X	X	X	X	X	
Ju		X	?		X	X	X	X	X		
Ba	X	X	X		X	X	X	X	X		X
Te		X		X		X	X	X	X		
Ca		X				X	X		X		
Er			?	X	X	X	X	X	X	X	
An		X		X	X	X		X	X		
Ka			X	X	X	X	X	X	X		
Ky	X	X	X	X		X		X	X		X
Ch		X	X	X	X	X		X	X	X	
Da		X	X	X	X	X		X	X		
Jo		X		X	X	X	X	X	X	X	
Ro		X		X		X	X	X	X		
Vi		X				X	X		X		
Ho	X	X	X	X		X		X	X	X	
Ji	X	X	X	X	X	X		X	X	X	X
Ri	X	X	X	X	X	X		X	X	X	
Ge			X	X		X		X	X		
Dl	X		X		X	X		X	X		
Di		X		X	X	X		X	X		
Bo	X	X	X	X	X	X	X	X	X	X	
Ma		X	X	X	X	X		X	X		
St	X	X	X	X	X	X	X	X	X		
Je	X	X	X	X		X		X	X		
Br		X		X	X	X		X	X		
Mi		X	X			X	X	X	X		
Ke	X	X	X		X	X	X	X	X		
Pe		X		X		X		X	X		
Li	X			X		X		X	X		
Ki	X	X				X		X	X		

APPENDIX B

EVALUATION FORMS

LESSON PLAN

Teacher

Group

Date ____________________

Time ____________________

COMMENTS

Long Term Goals

Immediate Goals

Materials

Procedure

Preventive Discipline

OBSERVATION REPORTS

Observer ______________________ Date ______________________

Child ______________________ Time ______________________

Teacher ______________________ Children ______________________

Activity

Goals

Motivational Techniques

Child's Response

Discipline

a. preventive

b. after the fact

Suggestions, Comments, Questions, and Criticisms

BEST COPY AVAILABLE

EVALUATION OF STUDENT TEACHER

STUDENT TEACHER ______________________

Student Teaching Period (Dates) ______________________

School ______________________

Grade or Level ______________________

COOPERATING TEACHER ______________________

Date (First Evaluation) ______________________

Please use the same medium (pencil, blue ink, etc.) for the First Evaluation date, checks, and comments.

Date (Second Evaluation) ______________________

Please use a medium different from that of the First Evaluation.

Please check the appropriate boxes, using the ratings. Leave an area box blank if there has been insufficient opportunity to evaluate this area or if comments would do more adequately.

Use spaces below the rating boxes for any comments you wish to make.

PERSONAL CHARACTERISTICS	Excellent	Above Average	Average	Below Average	Unsatisfactory
1. Personal Traits--tact; patience; consideration; emotional control; temperament; freedom from mannerisms; general health; general attitude; sense of humor.					
2. Character--honesty; fairness; sincerity; tolerance; maturity; promptness; perseverance; reliability; initiative; independence; industry; ability to accept responsibility.					
3. Appearance--neatness; grooming; posture; appropriate dress; poise.					
4. Speech--clearness; freedom from defects and mannerisms; voice quality; volume, clarity for speechreading; speed and phrasing.					
5. Language--correctness; clarity of expression; vocabulary in oral English, written English; ability to use language and vocabulary appropriate to children; handwriting; spelling.					
6. Mental Traits--good judgment; open-mindedness; intellectual honesty; curiosity; logic of thought; critical ability; ability to accept criticism and profit from it.					
7. Cooperation--relations with cooperating teacher, school personnel, parents, students.					

E STUDENT TEACHER AS A CLASSROOM TEACHER	Excellent	Above Average	Average	Below Average	Unsatisfactory
Knowledge of Subject					
a. Knowledge of language development at the level taught.					
b. Knowledge of academic areas appropriate to that level (arithmetic, social studies, science, etc.)					
c. Ability to integrate subject matter with language and communication skills, e.g., speechreading, speech and use of residual hearing.					
d. Accuracy of information taught.					
e. Understanding of inter-relationships between various areas of knowledge					
. **Planning Learning Activities**					
a. Ability to select objectives appropriate to the needs of the group and the material being presented.					
b. Ability to state these objectives clearly.					
c. Ability to plan the means for determining the extent to which the objectives have been accomplished.					
d. Meets the requirements of the cooperating teacher regarding lesson plans.					
. **Teaching Techniques**					
a. Selection of learning experiences appropriate to objectives.					
b. Organization and proper sequencing of the learning experiences.					
c. Variety of procedures used.					
d. Ability to foresee and plan the resolution of possible difficulties that might be encountered.					
e. Ability to take motivation into account in planning lessons.					
f. Ability to evaluate her own teaching objectively.					
4. **Presentation**					
a. Ability to motivate, stimulate and hold the interest of the students.					
b. Ability to take advantage of situations that permit transfer of learning and also create situations to make transfer possible.					
c. Ability to present a lesson in an organized, sequential order; awareness of stages within a lesson; review of known material, introduction of new material, presentation, discussion, practice, and summary.					
d. Ability to utilize a variety of techniques appropriate to the group (homogeneous or heterogeneous) to present the material and to clarify difficulties.					
e. Ability to utilize time so that the maximum amount of learning is accomplished in the minimum amount of time.					

	Excellent	Above Average	Average	Below Average	Unsatisfactory
f. Ability to recognize individual interests, levels of learning, and needs within the group and provide adequately for these differences.					
g. Sensitivity to the reactions of the group and individuals and the ability to adjust instruction immediately.					
h. Flexibility while teaching in terms of pacing, lesson time, content, etc. while maintaining a proper balance between flexibility and adherence to the work planned.					
i. Ability to incorporate language and communication skills (both planned and incidental) into presentations in all content areas.					
j. Ability to take advantage of incidents which occur unexpectedly and utilize them in providing worthwhile learning experiences.					
k. Ability to hold students responsible to the highest language and communication standards of which they are capable.					
l. Ability to provide clear and definite seat-work assignments or other follow-up material and activities to reinforce and extend concepts learned during the lesson.					
m. Skill in communicating with the children in terms of their level of vocabulary development and sentence structure.					
5. Skill in the Classroom					
a. Ability to establish and maintain appropriate order in and out of the classroom through appropriate techniques. (Example: Anticipating and guarding against problem-causing situations; keeping students constructively occupied; keeping "in touch" with all students in the classroom while they are involved in a variety of activities; developing self-control within the children, etc.)					
b. Ability to analyze types of errors made by pupils and adapt plans to review and clarify these learning difficulties.					
c. Ability to lead the children to discovery and independent thinking through skillful questioning on their level.					
d. Skill in developing responsibility on the part of the students to use their best language and communication skills at all times.					
e. Ability to keep all students constructively involved throughout the class period.					
f. Ability to work with aides and other teachers and to obtain maximum benefit from their presence.					

	Excellent	Above Average	Average	Below Average	Unsatisfactory
6. Classroom Management					
a. Keeps room orderly, attractive, and as physically comfortable as possible. b. Gives instruction in and holds children responsible for proper care and use of books, supplies, and amplification equipment. c. Keeps all records up to date, including samples of each child's work showing his progress. d. Is well prepared for the day's work before class begins and makes good use of planning time.					
7. Understanding of Pupils					
a. Ability to develop good personal relationships with the pupils. b. Awareness of the ability and progress of each child in the group. c. Is fair and objective in dealing with children at all times. d. Gains the confidence and respect of the children. e. Insight into child behavior.					
8. Teaching Materials					
a. Selects suitable teaching materials for the level taught. b. Adapts material when those available are not wholely suitable. c. Creativity and originality in developing teacher-made materials to fill in all gaps. d. Ability to make effective use of all teaching materials, audio-visual aids and equipment.					
THE STUDENT TEACHER AS A MEMBER OF THE PROFESSION					
1. Attitudes toward Teaching--interest in teaching as a profession; initiative and enthusiasm in professional activity; professional discretion; reliability and loyalty.					
2. Ability to Work with Others--desire and ability to establish satisfactory personal and professional relationships with school personnel as well as with students and parents.					
3. Probable Success as a Teacher					
4. Knowledge of and Participation in Professional Organizations					

Additional comments (Use other side of sheet if necessary)

Signature of Cooperating Teacher ________ Date ________

Evaluation Report

Date____________________

NAME________________________________

Evaluator____________________

I. General - the Teacher:

A. comes to the meetings

B. arrives on time

1. for conferences

2. for teaching

C. gives advance notice of schedule changes

D. cooperates with team and other students in coordinating plans for the overall program and for each child

II. The Observer:

A. completes forms of observations on every activity observed

B. turns in observation reports on the following day

C. pinpoints goals

D. shows awareness and understanding of child's needs by comments and suggestions

III. Preparation of Lessons - the Teacher:

A. has lesson plans completed for approval before 8:30 A.M.

B. has material before lessons and

C. returns them when finished

D. integrates goals into lesson plans

E. changes immediate goals and activities according to child's response to each day's lesson

F. foresees and plans resolution of possible difficulties

G. is prepared for spills or clean-up

IV. Presentation of the Lessons - the Teacher:

A. checks auditory equipment and comfortable seating before lesson

B. demonstrates the ability to motivate

C. utilizes a variety of facial and vocal expressions to convey meaning

D. presents the lesson in an organized, sequential order

E. utilizes a multisensory approach

F. utilizes a variety of materials

G. utilizes a variety of activities

H. demonstrates flexibility and awareness of child's mood by adapting lesson

I. makes use of spontaneous situations as they arise

V. Large Group Activity - the Teacher:

A. determines who will prompt each child

B. directs all assisting teachers in presentation of the lesson

C. directs all assisting teachers in eliciting responses from children

D. is responsible to check that all auditory equipment is working

E. utilizes the teacher's microphone when directing a large group activity

VI. Classroom Management - the Teacher:

A. uses appropriate means of communication with each child

B. maintains good rapport with each child

C. takes appropriate disciplinary action

D. locks Ri's braces and puts Ji in walker whenever appropriate

E. helps each child respond and gain meaning from all activities (both planned and incidental)

F. incorporates motor skills into all activities to increase child's independence

APPENDIX C

Work With Parents

APPENDIX C

A Training Program for Parents of Multi-handicapped Children

Parents of multi-handicapped children need to understand the relationship of the team teaching practicum to the home and how to reinforce daily school instruction. Therefore an attempt was made to bridge this communication gap and provide parent education by meeting the parents on a group basis, one full day each week. The following report is a summary of this project. The parents had special counseling and structured learning experiences . They developed specialized skills, and underwent group counseling to better cope with and understand their handicapped child.

In his early years a multiple handicapped child needs more opportunities to develop socially, mentally and educationally. He is completely dependent on his own family setting for all of his needs and entertainment. Most parents however, don't know what to do with the child and are often at wits' end. Many have attempted different projects but they didn't know how to go about effecting them. Thus discouraged, they've lost courage and interest in developing programs and fostering activities. Because of the unique problems of a multi-handicapped child, one of the most important aspects of the parent education program was to stress the important aspects of the parent education program was to stress the importance of the whole family's participation. Emphasis was stressed on not isolating the handicapped child, not having special toys or activities for him alone, but to coordinate his program with the entire family. This coordination required cooperative planning and time, yet within the routines and demands of the other family members.

Purpose and goals:

The purpose of the parent program was to build and understanding of the team teaching practicum and its relationship to the home environment.

Parents were encouraged to observe their children, to participate in individual discussions with the staff, and to accept the fact that they as parents were the responsible link between home and school. It was important that the parents acquire basic skills, competences, and the confidence that they could supplement the learning experience of their children. They were asked to continue the structured, daily program into the home regime through personal care and managment.

The program:

The program was conducted by Mrs. Elaine Parker, a highly trained and experienced teacher of the multi-handicapped blind children and adults. It attempted to prepare the participants to involve their handicapped child within the family and between the spouses.

The sessions were held on Friday from 9 a.m. to 2 p.m. Each meeting started with an hour's warm-up session over coffee in a small cafetería located in the Senior Citizen's building. The general format was a round-robin with each parent introducing himself and telling about his handicapped child. Warm-up topics included:

Discipline in the family
Weekend activities
A routine day
Scheduling
Home chores for the handicapped and their siblings
Children's quarrels
In-law problems in relation to the handicapped child
Parents, grandparents and relatives
Spouses' attitudes towards the handicapped child
The other children's attitudes towards you
Attitudes towards the medical profession
Neighborhood problems
Baby-sitting proglems
Communication with the handicapped child
Institutions, residential schools, day care facilities, and legislation affecting the multiple handicapped child
Toys and equiptment
Family sports and hobbies
Physical layout of the house or apartment and its grounds

Bathing and personal care
Planned parenthood and birth control
Church attendance with the handicapped child
Gifts for birthdays and holidays
Shopping with the handicapped child
Social life

Following the opening coffee session, mobility techniques were taught. The parents became more at ease with these techniques as the program progressed. They travelled from the cafeteria to the classroom using their trailing skills.

In the classroom, the first half hour was spent discussing the outcome of the previous week's assignment. A structured presentation filled the next hour and a half. Topics covered the following skills:

How to play, make, and create toys and meaningful learning activities from such things as milk cartons, oatmeal boxes, paper plates, coffee cans, egg cartons, etc.

Skills needed for reading readiness with various techniques that might be developed in a home setting

Personal care skills and home management skills that might be accomplished independently by the child, such as removing pajamas, opening the hamper, putting on underwear, brushing teeth, drinking from a cup, finding clothes, removing sheets, making a bed, vacuuming, dusting, folding clothes, sorting silverware, setting the table, etc.

The use of the lavatory, water fountains, and trailing to and from lunch gave additional opportunities for constructive buildings of skills to handle the same situations with their children. Lunch time provided the parent consultant the opportunity to discuss feeding problems in the home. Lunch hour topics consisted of skills and activities involved in eating as well as discussions on food likes and dislikes, attitudes toward eating, the parental attitude,the siblings' attitudes, eating alone or with the family, eating with the relatives and friends, food preparation problems before the dinner hour, freezing foods in advance, cooking while the child sleeps, and manners. Techniques were discussed concerning spoon feeding of foods of different consistency such as soup, jello and ice cream, forks for cutting meats, various types of pushers such as bread, crackers, knife, and spoon, drinking from a cup, and pouring premeasured liquids from a cup or pitcher to cup.

The session immediately after lunch was related to the morning skills but with a definite assignment being given to be carried out during the subsequent week. It was understood that each parent would attempt some kind of assignment based on his own child's ability and level of functioning. The parents reported back the following week about the outcome. The various types of assignments included name identification, weights, heights, personal care of teeth, hair, hands, feet, nose, ears and eyes, birthdays and what they mean, and dressing skills including buttoning and unbuttoning.

The last hour was devoted to any parent who wished to discuss a particular situation that troubled her. As with all the day's sessions, group discussion was encouraged. However, the class usually requested specific information from the teacher or from the graduate students who attended the sessions. An attempt was made to give many suggestions with alternatives offered as ways to handle problems. This resulted in an air of relaxation and enthusiasm among the groups. There was a definite attempt of the parents to help each other and a great deal of interest between the families. In doing this they often found ways that they themselves might like to attack a similar problem. The day's session ended with all the parents returning together to the Peabody Kennedy Center to pick up their children for the ride home.

There was a wide difference in the educational background of the parents ranging from grade four through college graduates. The socio-economic range was also wide with half of the participants receiving some form of welfare aid, one family in the upper class, and the other families in the upper lower or lower middle class. There were both whites and blacks imbolved in the program with no seeming differentiation between the parents because of their color. The women participants out-numbered the men. A problem brought periodically by the mothers when they were allowed to discuss their individual problems was that of involving the fathers. There were few natural fathers in the home. Although many of the step-fathers were tolerant of the children, with few exception they were not directly interested nor involved enough to actually help teach needed skills to the children.

Many books were used with the parents during their program. They were used as text books but also were used to give the parents a step by step demonstration of how they might analyze a book and use it to teach a child and his siblings. Books concerning body concept development were Dr. Seuss' and Roy Mackie's My Book about Me., Dr. Suess' The Foot Book, and Al Perkins' Hand, Fingers, Thumb. Dr. Suess' and P. D. Eastman's The Cat and the Hat Beginner Book Dictionary was used for vocabulary concept development. John Peter's What Time Is It and I Learn to Tell Time by the Golden Press were used for time concept development. Cornelius Stratton Parker's book on Your Child Can be Happy in Bed, Plants to Grow Indoors, by George Sullivan, the Whitman Publishing Company's Picture Parade, Simple Objects to Color and Simple Objects, and Graff Publication's 230 Handicraft Projects for Children, Make it with Coffee Cans and Make it of Wood were introduced as possible hobby activities. Dressing activities were found in the All by Myself books, I Learn to Button, and I Learn to Tie my Shoe by Golden Learn to Do it Library and were included for the parents' information and inspection as possible books that they might purchase.

Summary:

A great need was found for more parent education and counseling sessions than the 25 weeks could offer, not only while the chidren were attending the team teaching practicum but particularly after they were finished at the center and returned to their own settings. By encourgaging the parents during the educational program it was felt their services could be enlisted and their energies directed to form parent education clubs for the multiply handicapped or they could be encouraged to join already existing programs for the blind, cerebral palsied, or deaf. These parents after acquiring special skills could assist other parents and lead discussions or demonstrations of skills or activities. The knowledge they acquired during the sessions in regard to keep their information current. It is important that these parents should not again be isolated from society and have to face their problems alone. Through parent education clubs, cooperative baby sitting or recreational play groups much could be arranged.

D

APPENDIXES

APPENDIX D

APPLICATIONS OF THE BAYLEY SCALES OF INFANT DEVELOPMENT
TO MULTIPLY HANDICAPPED CHILDREN

by

Judith L. Higuchi

Bachelor of Arts

Stanford University

A Thesis Submitted in Partial Fulfillment of the

Requirements for the Degree of

Master of Arts

in the

Department of Special Education

of the

Graduate School

George Peabody College for Teachers

August, 1971

Approved:

Major Professor:________________________________

Minor Professor:________________________________

Dean of the Graduate School:__________________________

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Introduction

The use of infant developmental tests has increased greatly in recent years with the rising interest in early education which is extending beyond the kindergarten and preschool levels into infancy. The majority of these tests were standardized on populations of normally developing children although they are also used with handicapped children.

The usefulness and often the validity of such applications have been questioned by many educators of these handicapped children because of controversies concerning the population samples used to establish the norms, the predictive ability of the tests, and the validity and interpretation of the test scores. Rather than communicating useful information concerning a child's developmental status and/or capabilities, these tests have often created a gulf between the psychologist and educator.

In this thesis the items of one particular test, the Bayley Scales of Infant Development (Bayley, 1969), are analyzed, and the instrument's use as a diagnostic tool for educators in determining possible etiologies of handicapped children's developmental delays, establishing a basis for possible intervention measures, and providing a standard measure of the effectiveness of such intervention is described.

The term "multiply handicapped" refers to the existence of more than one handicapping condition in the child. Handicaps include any type of sensory impairments, physical disabilities, neurological disorders, chronic illnesses, and retardation due to organic and/or social causes.

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Background Statement

The rising incidence of handicapped children in the United States is well documented by Wolf and Anderson (1969). Based on an increase of 1,000,000 more births in 1962 than in 1952 and a static incidence of 2% handicapping conditions diagnosed at birth, there was an increase of 20,000 handicapped children between 1952 and 1962. With recent estimates of 4,000,000 births per year in the United States, approximately 80,000 children with some handicapping condition are born each year. It is further suggested that the 2% incidence rate rises to 4% by the age of 5 years, doubling the number of handicapped children by school age.

Reasons for this increase include not only the expanding birth rate but also the reduction of the infant mortality rate. The number of children who survive with some handicapping condition is increasing. This is brought about by advances in prenatal and neonatal care and improved surgical techniques. An increasing social concern in educating rather than just institutionalizing these children also has brought more children to the attention of the educators and statisticians.

The rubella epidemic of 1963-1965 has been another major cause of increased numbers of handicapped children. Estimates have ranged from 20,000 to 30,000 children with one or more handicaps born to mothers who had rubella during the early part of pregnancy, particularly during the first trimester (Hicks, 1970, Calvert, 1969, Cooper and Krugman, 1966). As rubella epidemics occur in six to nine year cycles, we are presently entering another crucial period with another possible increase of handicapped children over the next few years.

Characteristic of these rubella syndrome children, usually called simply rubella children, is not just one handicapping condition but many of mild to severe degrees. Guldager (1970) and Robbins & Stenquist (1967) described many of the physiological and behavioral conditions.

Wolf & Anderson (1969) compiled an extensive collection of papers describing various educational, social, and medical aspects of multiply handicapped children.

The cost of educating one handicapped child for 13 years ranges from $26,000 to $182,000 depending on the nature and severity of the handicap(s) and the particular school's costs (Calvert, 1969). The cost of institutionalizing a child for life without educational provisions is estimated at $180,000 (Calvert, 1969).

The size of the population, the high costs of educating and institutionalizing these children, and the possibility of a further increase of multiply handicapped children from another rubella epidemic have stimulated psychologists, educators, and medical people to focus on the development and means of educating these children. Early detection of the handicap and early interventions are considered important factors in maximizing the child's life options. Investigators have turned to developmental studies to reach these goals.

Arnold Gesell was one of the early investigators to study the development of normal and abnormal children. Gesell viewed development as largely a maturational process. Others emphasized environmental interactions as an important component of the child's development. Stott & Ball (1963) reviewed the different theories in a discussion of infant tests.

In this paper development is defined as the continually reintegrative acquisition and expansion of more complex behaviors which will enable the infant to more effectively cope with the living demands of his society. This development results from both maturational and environmental factors. Such development usually occurs without incident in the transition from a primarily dependent infant to a mature and self-sustaining adult.

The question now arises concerning the development of children with one or more handicapping conditions. How do factors such as blindness and deafness restrict the normal flow of information to the child? Do they affect the rate, sequence, and process of development? Does the development of handicapped children fall within the normal range of individual differences in development or is their development abnormal?

Because of individual differences in development and problems in determining gestational age and postnatal age, limits for the appearance of certain behaviors were established within what are considered normal ranges. These ranges are the criteria by which children are judged precocious, normal, or retarded in their development.

Whether the age factor is considered of great importance or totally irrelevant (Baer, 1970), the sequence of development is believed to occur with great consistency. This does not imply that there exists a lockstep sequence of specific behaviors but that the entire spectrum of abilities follows an overall progressive course. Bayley (1936) states, "Individual children may have reversals in specific sequences, but no performance varies far from the average difficulty placement (p. 15)."

Illingworth (1963) described various fields of development as more important than others, particular in terms of assessment and predictive properties. In the majority of children, development in one field parallels the development in other areas, but in some cases the different areas of development are out of step with each other. He called this incongruity dissociation. Dissociation may or may not be linked with abnormal development. Some children may begin to talk or walk at ages well past the usual expectancies without any other unusual or abnormal behavior sequelae.

Within each area of development, however, a usual sequence is followed. For example, postural control must be established before a child will walk. Freedman (1969) described a 9-month old blind child who made no attempts to move forward in any fashion on the floor (Bayley Motor Scale item 33, age placement 7.1 months, range 5-11 months), but was capable of lowering herself from a chair into an erect sitting position on the floor (Bayley Motor Scale item 43, age placement 9.6 months, range 7-14 months). Although the behaviors were within the age ranges, the implication was that this incident was a reversal in sequence. Cases such as this one are rare in the literature.

Regarding the effects of sensory deficiencies on development, Gesell (1947) made these comments:

> "Normal development, as it has been described, is dependent upon an intact organism. Disease, defects, or damage that impair the integrity of the organism deflect the normal currents of development. . . . Normal equipment includes normal developmental potentials, normal receptors, and normal effectors. Loss or impairment of vision, hearing, touch or proprioception, the most important receptors, interferes seriously with the acquisition and integration of normal experience and with the development of appropriate responsive behavior. An infant cannot develop normal responses to things he cannot see or hear or feel. Loss or impairment of movement and, later, of speech, the two most important effectors, precludes normal responsive behavior and may thus interfere with the acquisition of normal experience.

> "This is not to say that responsive and appropriate behavior is never developed by handicapped individuals: it is. But it is not developed with normal ease, nor through normal channels and it is not fully normal behavior in its organization (p. 202)."

In the Report on the Conference on Children with a Combined Visual and Auditory Handicap (1961), Reed discussed the influence of various sensory deficiencies on the rate of development in the multiply handicapped rubella child. He commented that "the rate of general development will depend, of course, on the degree of impairment of the sense (p. 34)."

Observations have indicated that these effects are not necessarily additive in nature but that complex interactions delay a child's overall development. Delay in one area may retard development in another area.

Lowenfeld (1964) stated that the development of blind babies, excluding any other handicaps, progresses at much the same rate as that of babies with normal vision. His qualification of excluding any other handicaps again raises the question of the development of a multiply handicapped child.

When a child's development is questioned, particularly if he is multiply handicapped and a high-risk candidate for special educational procedures, his developmental level and capabilities should be ascertained as precisely as possible prior to any plans for education or institutionalization. Hardy (1969) stressed the importance of complete evaluation before placement in remedial classes and suggested repeated evaluations during the first two or three years of life.

The infant developmental test is one means of making this type of assessment.

Thomas (1970) described many of the original purposes of these tests. They were designed to serve as screening instruments for adoption agencies (Gilliland, 1949b, 1951b), measurements of behavioral differences between normal and abnormal or traumatized infants (Graham, 1956), measurements of variables related to the child's broader personality characteristics (Flint, 1959), a checklist to detect infantile autism (Rimland, 1964, 1965) culture-free intelligence tests (Kahn, 1960a,b), and downward extensions of intelligence tests for older children (Cattell, 1940).

The use of the infant test as a measure of a child's potential intelligence has caused considerable controversy in the literature.

Arguments denying the predictive value of infant developmental scores for later IQ scores included studies in which scores made in the first year of life are not correlated highly with the children's later intelligence scores (Bayley, 1949, 1955, 1958, 1965; Thomas, 1970; Shirley, 1931). Although the correlations improved as the age of the infant at testing increases beyond the first year, the suggestion was made that infant development, though probably a precursor and foundation for more complex behaviors, was composed of factors different from those that are tested and labeled intelligence in older children's tests.

There are also studies which have confirmed the predictive validity of infant tests to later development and intelligence, especially with abnormal or high-risk children (Willerman, 1970). In his article on infant development, preschool IQ, and social class, Willerman (1970) mentioned studies by Knobloch, Rider, Harper & Pasamanick (1956), Erickson (1968), and Illingworth & Birch (1959) where positive correlations were found with premature children or children later found to be retarded. Willerman (1970) cited Illingworth & Birch (1959) who implied that infant tests are more reliable in predicting low intelligence scores than average or above average scores.

Erickson (1968) attributed the failure of some studies to demonstrate the predictive value of infant scores to the populations studies. He described these groups as too homogeneous and stated that the abnormal infants or infants from the lower socioeconomic classes were excluded. He finally stated that what can be concluded from the studies denying the predictive value of infant tests was that prediction of later intelligence from infancy was not possible for normal, middle class children.

It is not within the scope of this paper to provide a complete literature review of this controversy nor to make any definite conclusions about it.

Instead, the uses of one infant developmental scale, the Bayley Scales of Infant Development (BSID), for educators working with multiply handicapped children are discussed. The predictive aspect of the infant score is acknowledged only in the sense that any developmental delays revealed by the test indicate the potential for further delays and should warrant at least continued close observation of the child's development.

The intent in measuring the infant's development is not to map out the child's life but to use the scores as an indication of where he currently stands in his development and where and how he can be assisted in further development.

The 1969 edition of the Bayley Scales of Infant Development was used because of the author's first-hand experiences with the instrument and because the stated value of the scale was in keeping with the author's purposes for applying an infant test to handicapped children. Bayley (1969) states in the manual:

> "The primary value of the development indexes is that they provide the basis for establishing a child's current status, and thus the extent of any deviation from normal expectancy. Also, together with the mental and motor age equivalents, they provide a basis for instituting early corrective measures when the child shows evidence of retarded mental or motor development. Once the developmental problem is recognized, treatment that is geared to the child's developmental age may be undertaken in accordance with the diagnosis of underlying causes, such as sensory deficits (e.g., impaired vision or hearing), neurological defects (e.g., those arising from prenatal or perinatal injury or genetically determined enzymatic malfunctions), emotional disturbances, or unfavorable environmental conditions. The BSID provides a basic set of instruments for use in identifying mental and motor retardation as well as in gathering clues which the clinician may employ in formulating hypotheses regarding etiology (p. 4)."

In this study emphasis was placed not on the child's age placement or developmental age but on the specific behaviors and abilities demonstrated in the evaluation setting. The goal was to demonstrate to educators how a currently used infant test could serve as a useful diagnostic teaching tool.

It was also felt that the standardization sample used as a basis for the norms of the scale was similar to the population of children in schools which serves as the criterion for admission of handicapped children to various educational programs. (A complete discussion of the standardization and validation of this instrument may be found in the Manual for the Bayley Scales of Infant Development, 1969).

The current instrument is comprised of a Mental Scale of 163 items and a Motor Scale of 81 items. The items are listed by age placement (the age at which 50% of the children passed a given item). Age ranges which give estimates of the ages at which 5% and 95% of the children passed each item accompany each item. An Infant Behavior Record (IBR) is the third part of the instrument and serves as a qualitative check by the examiner and observer on the state and general behavior of the infant during the evaluation. The IBR also indicates whether or not the evaluator and observer considered the test an adequate and reliable measure of the infant's development.

Method

The analysis of the items was not of the same nature as that performed by other investigators (Stott & Ball, 1963) in trying to ascertain the intellectual components of the items. Nor was it an attempt to group the items according to general areas of development such as adaptive coordination and adaptive behavior (Bayley, 1933).

The classification of items was based on the type of sensory stimulus presented to the infant in each item and the type of response required of the infant. The investigator agrees with Bayley (1933) regarding the difficulty in classifying the items in view of the frequent overlap of stimuli in one item and the failure of each item to test only a single ability or function based on one sensory modality. However, it was felt that the usefulness of the instrument could be increased by such groupings and thereby assist educators in interpreting a child's performance more precisely and specifically than is usually possible from the scores alone.

The Mental Scale items were grouped according to the sensory modality of the stimulus content and the sensory modality or behavior needed for the response. Ten stimulus groups were determined, each composed of one or more of the following sensory modalities: auditory, visual, tactile, and kinesthetic. No items were found to depend on either the senses of olfaction or taste. The remaining items made up the eleventh group as all but one of the items involved spontaneous vocalizations. The one item requiring gestures was included as it was also a form of spontaneous communication. Table 1 lists the items by their appropriate groups.

As a given stimulus may require response from the infant in a different sensory modality, the items were classified again according to the modality of the required response. Eight different groups were determined. An emotional or social component was implied in the group labeled Smiles and Expressions. Table 2 lists the items according to this second classification.

The items on the Motor Scale were classified according to a scheme devised by Bayley (1936). There are three categories: manipulation, motion, and antigravity. Table 3 lists the items under these categories.

The Infant Behavior Record was not reclassified as it was already in relatively simple form. Since the record is a highly subjective and sometimes ambiguous measure, it was not used consistently in the analysis. The purpose of the classifications and analyses was to gain precise descriptions of specific behavior patterns. The IBR is confined to much more general statements.

The BSID record forms of five children showing some developmental delay from the Infant Developmental Evaluation Clinic at the George Peabody College for Teachers, Nashville, Tennessee, were then analyzed according to these new classifications. The items passed or failed were recorded

Table 1 (continued)

Classification of the Mental Scale Items by Stimulus Content

Classification	Item	Age Placement	Age Range
	$D^2$68	5.4	4-8
	$D^2$71	5.7	4-8
	L73	5.8	4-11
	M74	5.8	4-10
	$D^2$80	7.1	5-10
	$H^1$86	8.1	6-12
	I88	9.0	6-14
	M95	10.4	7-15
	M112	14.0	10-21
	M147	24.4	19-30+
1c Primarily tactile	23	1.7	.5-5
	$D^1$33	2.6	1-5
	B35	2.6	1-6
	$D^1$44	3.8	2-6
1d Auditory and/or visual	E6	0.2	.1-1
	E25	2.0	1-5
	E27	2.1	1-6
	$E^1$58	4.8	3-8
	I62	5.2	4-8
	I75	6.0	5-10
	$A^1$78	6.5	5-10
	$A^1$83	7.8	5-13
	$Q^1$97	10.8	8-17
1e Visual, auditory, and/or tactile	E18	1.5	.5-4
	B22	1.7	1-4
	H56	4.7	3-7
	$E^1$61	5.1	3-8
	$E^1$81	7.6	5-12
1f Tactile-kinesthetic	B2	0.1	-
1g Visual-tactile	C36	2.8	2-5
	$G^1$39	3.2	1-6
	$G^2$43	3.3	2-6

PAGES D14 TO D16 WERE NOT
SUBMITTED TO EDRS

Table 2 (continued)

Classification of the Mental Scale Items by Mode of Response

Classification	Item	Age Placement	Age Range
	F9	0.7	.3-3
	E10	0.7	.3-2
	F12	0.8	.3-3
	D14	1.0	.5-3
	F15	1.2	.5-3
	D16	1.2	.5-3
	$G^1$17	1.3	.5-3
	D19	1.6	.7-4
	F20	1.6	.5-4
	24	1.9	1-4
	AC28	2.2	.7-5
	29	2.3	.7-5
	H32	2.5	1-5
	AC34	2.6	1-5
	$G^1$42	3.3	2-6
	$G^1$45	3.8	2-6
	J52	4.4	2-7
	M74	5.8	4-10
	P91	9.5	8-14
	Q93	10.0	7-16
2c Turns head to track object	38	3.1	2-5
	$D^1$40	3.2	1-5
	I41	3.2	1-6
	A47	3.2	2-6
	C48	3.9	2-6
	I62	5.2	4-8
	I75	6.0	5-10
2d Hand-finger movements	$G^1$39	3.2	1-6
	$G^2$43	3.3	2-6
	$G^2$50	4.3	2-7
	H56	4.7	3-7
	57	4.8	3-7
	C59	4.9	4-8
	$G^2$69	5.5	4-8
	M98	11.2	8-15
2e Hand-arm movements (includes grasp by hand)	$D^1$33	2.6	1-5
	$D^1$44	2.6	2-6

Table 2 (continued)

Classification of the Mental Scale Items by Mode of Response

Classification	Item	Age Placement	Age Range
	L73	5.8	4-11
	H77	6.3	4-10
	$A^1$78	6.5	5-10
	$D^2$80	7.1	5-10
	$E^1$81	7.6	5-12
	H82	7.6	5-14
	$H^1$86	8.1	6-12
	O87	8.9	6-12
	L88	9.0	6-14
	L90	9.4	6-13
	L92	9.7	8-15
	M95	10.4	7-15
	$H^1$96	10.5	8-17
	99	11.3	8-15
	L100	11.8	9-18
	P102	12.0	9-17
	O103	12.0	8-18
	104	12.2	8-19
	$D^2$105	12.4	7-18
	P107	12.9	10-17
	O108	13.0	10-17
	J109	13.4	10-19
	R110	13.6	10-20
	$H^1$111	13.8	10-19
	M112	14.0	10-21
	L114	14.3	11-20
	P115	14.6	10-20
	O118	16.4	13-20
	$H^1$119	16.7	13-21
	S120	16.8	12-26
	R121	17.0	12-25
	122	17.0	12-24
	O123	17.6	14-22
	M125	17.8	13-26
	U126	17.8	14-26
	M128	19.1	15-[illegible]
	R129	19.3	14-30+
	131	19.7	14-30+
	V132	19.9	16-28
	V133	19.9	15-27

Table 2 (continued)

Classification of the Mental Scale Items by Mode of Response

Classification	Item	Age Placement	Age Range
	O134	20.0	16-29
	M135	20.5	14-30+
	S137	21.2	16-30+
	V139	21.6	17-30+
	W140	21.9	15-30+
	R142	22.4	16-30+
	$H^1$143	23.0	17-30+
	X144	23.4	16-30+
	M147	24.4	19-30+
	V148	24.7	19-30+
	S151	25.4	18-30+
	X152	25.6	18-30+
	W153	26.1	16-30+
	$H^1$154	26.1	19-30+
	R155	26.3	19-30+
	O156	26.6	19-30+
	M157	27.9	22-30+
	Z158	28.2	22-30+
	R159	30.0	22-30+
	R160	30.0+	22-30+
	$H^1$161	30.0+	22-30+
	$H^1$162	30.0+	21-30+
	Z163	30.0+	23-30+
2h Smiles and facial expressions	E18	1.5	.5-4
	E25	2.0	1-5
	E26	2.1	.7-6
	E31	2.4	1-5
	$E^1$61	5.1	3-8
	K65	5.4	3-12
2i Total body: looking, pointing, touching, laughing, etc.	B35	2.6	1-6
	C36	2.8	2-5
	K53	4.4	2-7
	K76	6.2	4-12
	N89	9.1	6-14
	N94	10.1	7-17
	$E^1$97	10.8	8-17
	N117	15.3	11-23

Note. All age placements and age ranges are in months.

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Table 3

Classification of the Motor Scale Items by Mode of Response

Classification	Item	Age Placement	Age Range
3a Manipulations	C5	0.8	.3-3
	15	2.7	.7-6
	E16*	3.7	2-7
	E21*	4.9	4-8
	G24*	5.4	4-8
	H25*	5.6	4-8
	G26	5.7	4-8
	H30*	6.8	5-9
	E32*	6.9	5-9
	H35*	7.4	6-10
	G39	8.6	6-12
	H41*	8.9	7-12
	G44	9.7	7-15
	48	13.3	9-18
3b Motion	B3	0.1	-
	B4	0.4	.1-3
	C6	0.8	.3-2
	C7	0.8	.3-2
	C^{1}11	1.8	.7-5
	C^{1}19	4.4	2-7
	F20	4.8	3-8
	F22	5.3	4-8
	C^{1}28	6.4	4-10
	B33	7.1	5-11
	I34	7.4	5-11
	F36	8.1	5-12
	J37	8.3	6-11
	J38	8.6	6-12
	I40	8.8	6-12
	I42	9.6	7-12
	I43	9.6	7-14
	I46	11.7	9-17
	I49	14.1	10-20
	I50	14.6	11-20
	N53	16.1	12-23
	N54	16.4	13-23
	O56	17.8	13-26
	P59	23.4	17-30+
	Q61	23.9	18-30+
	R63	24.8	19-30+
	R64	25.1	18-30+

Table 3 (continued)

Classification of the Motor Scale Items by Mode of Response

Classification	Item	Age Placement	Age Range
	Q65	25.7	16-30+
	N66	25.8	19-30+
	O67	27.6	19-30+
	Q68	27.8	20-30+
	R69	28.1	21-30+
	R70	29.1	22-30+
	N72	30.0+	23-30+
	Q73	30.0+	20-30+
	O74	30.0+	24-30+
	Q75	30.0+	23-30+
	R76	30.0+	25-30+
	P77	30.0+	24-30+
	R78	30.0+	28-30+
	79	30.0+	30+
	N80	30.0+	30+
	P81	30.0+	28-30+
3c Antigravity	A1	0.1	-
	A2	0.1	-
	A8	0.8	.3-3
	A9	1.6	.7-4
	C10	1.7	.7-4
	B12	2.1	.7-5
	D13	2.3	1-5
	A14	2.5	1-5
	D17	3.8	2-6
	A18	4.2	2-6
	D23	5.3	4-8
	D27	6.0	5-8
	D29	6.6	5-9
	D31	6.9	5-10
	I45	11.0	9-16
	K47	12.6	9-18
	M51	15.9	12-21
	M52	16.1	12-23
	O55	17.8	13-26
	K57	21.9	11-30+
	M58	22.7	15-30+
	M60	23.5	16-30+
	O62	24.5	17-30+
	K71	30.0+	22-30+

Note. All age placements and age ranges are in months.
≠ Visual stimulus involved

under each new category, showing any possible behavioral patterns among the groups.

These new groupings were studied for possible trends of passes or fails in terms of the stimulus modality involved and/or the mode of response required. Particular attention was paid to the following:

(1) patterns of failures to a particular sensory stimulus, indicating a possible sensory deficiency and possible etiology for a delayed development score;

(2) precise assessment of how the infant is using each of his sensory modalities;

(3) any marked discrepancies in responses among similarly grouped items.

Checks back to the original BSID record forms were made to give further information on some of the patterns.

The results were then compared with the child's case history for verification of the suspected etiology of delay and any behavioral patterns.

Results

The results of the analyses for the five cases are listed in Appendix A. A separate discussion of each case follows. The general age placement scores obtained by each child on both scales are given to compare the value of the information conveyed in that score with the information obtained in the more detailed analyses.

Case 1 23 months, 22 days Mental age placement < 1 month
Motor age placement < 2 months

According to her performance on the BSID, this child is profoundly developmentally retarded in both the mental and motor areas. The child

The study of this child also illustrated the potential use of the BSID as a diagnostic tool for infants. Out of the 16 purely visual items in the age range tested, he passed one item (item 5-momentary regard of red ring) and failed the other 15. He gave no responses to moving or still objects, lights, or people. And although some children outgrow certain items (fail to respond when capable simply because more sophisticated behaviors have developed as a replacement), his consistent failure to give any visual responses at eight months would raise some questions concerning his vision.

Excluding the visual items, there are perhaps 12 items he could have passed which were not at all contingent upon visual stimulation. However, he passed only eight items, three auditory stimulus items, three vocalization items, one tactual stimulus item, and the one visual item mentioned above. The responses to auditory items did not include any responses to the human voice.

Analysis of his responses by mode of response confirmed the lack of any visual and social responses.

In view of his overall delay, close attention should be paid to any visual behavior to determine the extent of the blindness, if any, the consistency of his auditory responses, and any social interactions. The motor delay in developing an upright posture as evidenced by the predominance of failures in the antigravity group suggests neuromotor involvements in addition to the visual problem.

Careful observations of these areas in the child's home setting accompanied by periodic evaluations would help determine the validity of this initial concern and the development of the child.

Case 3	15 months, 3 days	No age placements given
	19 months, 12 days	Mental age placement 3-4 months Motor age placement 4-4½ months

This child's age placements indicated profound developmental delays, information which by itself is a matter of concern for the educator but of little value in trying to ascertain the precise areas and types of stimulation needed.

Close analysis of both evaluations revealed failures on all but two of the auditory stimulus items, approximately 50% failure on any items of visual stimulus content, and passes on all primarily tactile and tactile-kinesthetic items. Analysis according to mode of response revealed indefinite eye-movements and eye-hand coordination responses and also a failure on every item in which the head had to turn in tracking.

Despite the visual inconsistencies, the manipulative area seems the most developed, and he even passed items requiring visual stimulation. However, there was a marked delay in the two antigravity areas of head control and sitting and in items requiring movement of his whole body.

This analysis was more informative, suggesting some possible visual and auditory difficulties and a motor delay in locomotion and postural control. The patterns were still not definitive enough to provide suggestions for specific tasks for remediation.

An even closer examination revealed patterns which could serve as starting points educationally. In the visual items, the child demonstrated positive responses to the stationary red ring and red cube, the stationary and moving person, and the moving light but not to the moving red ring. He tracked the moving light but not the moving ring. He did not follow the falling spoon or moving ball but did regard the 8 mm. sugar pellet (Mental Scale item 52) and even attempted to pick it up. He also reached for and obtained the dangling ring and red cube, demonstrating early eye-hand coordination movements. Thus educational concerns might focus on strengthening his eye-hand coordination and developing his tracking ability.

His lack of consistent responses to auditory stimulus items might provoke concentrated observations on his auditory behavior with different types of stimuli since, if there is a hearing problem, he is at the age which many educators of deaf infants consider crucial in developing a listening ability as a prerequisite to language and speech.

Consultation of his case history revealed that this child had been seen at the Vanderbilt Opthamology Clinic and was reported to have no vision in the left eye and only some in the right. Again, this description would not be functionally useful to a person working with the child but the way he uses his remaining vision as indicated in the analyses would be a valuable starting point in any intervention procedures.

Case 4	15 months, 15 days	Mental age placement 9 months Motor age placement 11 months
	24 months	Mental age placement 7-8 months Motor age placement 11-12 months
	30 months	Motor age placement 10 months
	31 months, 4 days	Mental age placement 14-15 months

Analysis of this child's performance on four evaluations initially suggested a potential hearing problem as he never passed more than one auditory stimulus item on the mental scale. However, since most of the items in the age range tested were also language comprehension items, his failures were not necessarily of an auditory nature. The lack of spontaneous vocalizations gave some credence to the hearing problem although it was not definitive. Analyses by mode of response also indicated only one response when both imitative and spontaneous vocalizations were studied.

The inconsistencies in his visual responses to visual stimuli with a large number of failures in the eye-hand coordination are as suggested a visual or possibly visual-motor difficulty. However, his manipulative development on the motor scale seemed the most advanced, and he demonstrated the fine pincer movement. This factor raised some question about possible motor impairments.

In this case the Infant Behavior Record provided useful information as it revealed rather severe behavioral problems which interfered with the administration of many items. For example, he continually threw the toys during the evaluations.

The case history included a report from the Bill Wilkerson Speech and Hearing Center in Nashville, Tennessee, which stated that this child has a severe to profound bilateral hearing loss. No visual difficulties were mentioned.

It was concluded from the analysis that specific areas of delay are in speech and language, probably due to the hearing loss, and behavioral problems interfering with his performance in the eye-hand coordination area.

In this case, the BSID could probably best be used as a check on the intervention procedures than as a diagnostic instrument. The specific eye-hand coordination items he failed presented themselves as concrete areas in which to perform intervention. Repeated evaluations would measure not only the effectiveness of the interventions on those particular tasks but also the effects on other areas of development. Although the child would be beyond the upper chronological age limit for the test, the instrument would still provide a good diagnostic teaching tool.

Case 5	32 months, 2 days	Mental age placement 12-14 months
	36 months, 26 days	Mental age placement 15 months Motor age placement 15 months

This child did not appear to have any visual or hearing impairments although the number of failures in Classification 1j suggested delayed language. All items in that group are not just auditory stimulus items but have language comprehension components. He passed all the spontaneous vocalizations, but analysis by mode of response, 2f, showed a failure on those items requiring the naming of objects or pictures.

The large number of failures on items containing primarily visual stimuli and requiring eye-hand coordination was another area of concern. A closer examination of the items revealed that he passed many tasks requiring good eye-hand control (putting cubes in the cup, placing small beads into a hole in a box), but failed the balance items (stacking cubes) and the pegboard and formboard items. The other failures were largely in the area of language comprehension (pointing to the correct picture and pointing to parts of the doll).

Thus, educational tasks might include balance tasks and work on developing the knowledge of body-parts and self-concept and inner and receptive language.

According to the case history, this was a cerebral palsied child with right hemiparesis who drags his right leg on which is worn a partial leg brace. There was also some question of his visual acuity since he seemed to be peripherally oriented and exhibited some indications of strabismus.

The motor analysis suggests tasks to build his gross motor skills. He should be encouraged to walk up and down stairs and to play on large playground equipment such as walking boards, jungle gyms, large blocks, etc.

Thus careful analysis of the BSID demonstrated what a child can and can't do in very specific terms. The description of the child as a three-year-old boy with right hemiparesis and possibly some visual problems and his age placement at 15 months by themselves would not have provided an educator with the precise information needed for individual educational planning.

Discussion

Analysis of the performances of five multiply handicapped children on the Bayley Scales of Infant Development demonstrated the diagnostic and prescriptive potentials within that instrument. In three cases the analyses suggested sensory impairments which were found to be in agreement with other medical diagnoses. Equally important were the identifications of the children's abilities and limitations within a framework of specific behavioral tasks.

Comparisons among the groups of the three major classification schemes were useful in pinpointing certain abilities. For example, in Case 5, comparisons between the vocalization responses to specific vocal stimulis (speech) and the spontaneous vocalizations revealed a pattern of delayed language.

Continued and consistent administration of the BSID would not necessarily predict a child's ultimate growth rate or schedule. In her study of the predictability of early motor scores on future development, Bayley (1933) concluded that a child's early pre-walking progression scores were no better predictors of when he would walk than was the median age of walking for his whole group. Precocity or slowness can't be predicted from skills shown earlier than the 30th week. Only between small age intervals did she get any high correlations. She also stated that as the child grows older, the variations of his performance on individual items increases, and correlations between different types of performance decrease. Thus predictability is made even more difficult. However, repeated administrations of the scale could be used as an indication of the effectiveness and appropriateness of teaching techniques and intervention measures.

Although the investigator acknowledges the bias mentioned by Bayley (1933) in classifying the test items, the results demonstrated that such analyses can provide much needed useful information about the developing abilities of a multiply handicapped child. Descriptions of a child's performance on specific tasks in terms of what is presented to him and what is required of him are much more useful to the educator than are test scores or age placements which state that the child is functioning below, at, or above normal levels of development. The educator is frequently aware of a child's general level of functioning before any test results are obtained. A description of the child's handicaps is also not uniformly useful as individual children with the same conditions often perform in very different ways. The educator needs instead a precise analysis of that particular child's abilities and limitations.

The method of interpretation of the Bayley Scales of Infant Development discussed in this thesis has potential for providing this needed analysis.

D 34/35

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APPENDIX A

RESULTS OF ANALYSES OF MOTOR AND MENTAL SCALE ITEMS FOR INDIVIDUAL CASES

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D 36/D37

Case 1   23 months, 22 days (continued)

2a	Pass	1 2 3 11
	Fail	4 23
2b	Pass	
	Fail	5 6 7 8 9 10 12 14 15 16 17 19 20 24 28 29 32 34
2c	Pass	
	Fail	
2d	Pass	
	Fail	
2e	Pass	
	Fail	33
2f	Pass	13 27
	Fail	21 30
2g	Pass	
	Fail	
2h	Pass	18
	Fail	25 31
2i	Pass	
	Fail	
3a	Pass	5 16*
	Fail	15 21* 24* 25*
3b	Pass	3 7 11 19
	Fail	4 6 20 22
3c	Pass	1 2 8 12 13
	Fail	9 10 14 17 18 23

Case 2 8 months, 22 days (continued)

2a	Pass	1 3 4 23
	Fail	2 11 22
2b	Pass	5
	Fail	6 7 8 9 10 12 14 15 16 17 19 20 24 28 29 32 34
2c	Pass	
	Fail	
2d	Pass	
	Fail	
2e	Pass	
	Fail	33
2f	Pass	13 21 30
	Fail	27
2g	Pass	
	Fail	
2h	Pass	
	Fail	18 25 26 31
2i	Pass	
	Fail	
3a	Pass	5
	Fail	15 16*
3b	Pass	3 4 6 7
	Fail	11
3c	Pass	1 10 12
	Fail	2 8 9 13 14 17 18

Case 3 15 months, 3 days

1a	Pass						
	Fail	72	84				
1b	Pass	63	67	68	73		
	Fail	71	74	80			
1c	Pass						
	Fail						
1d	Pass						
	Fail	58	62	75	78	83	
1e	Pass	56	61				
	Fail	81					
1f	Pass						
	Fail						
1g	Pass	57	59				
	Fail	66	69				
1h	Pass	49	51	52	54	60	77
	Fail	64	70	82			
1i	Pass	53	65	76			
	Fail						
1j	Pass						
	Fail						
1k	Pass	55	79				
	Fail	85					

Case 3 15 months, 3 days (continued)

2a	Pass	
	Fail	58 84
2b	Pass	52
	Fail	74
2c	Pass	
	Fail	62 75
2d	Pass	56 57 59
	Fail	69
2e	Pass	
	Fail	66 83
2f	Pass	55 79
	Fail	85
2g	Pass	49 51 54 60 63 67 68 73 77
	Fail	64 70 71 72 78 80 81 82
2h	Pass	61 65
	Fail	
2i	Pass	53 76
	Fail	
3a	Pass	5 15 16* 21* 24* 26 32*
	Fail	30* 35
3b	Pass	3 4 6 7 20
	Fail	11 19 22 28 33 36 37
3c	Pass	2 10 12 13
	Fail	1 8 9 14 17 18 23 27 29 31

Case 3 19 months, 12 days

1a	Pass	1 3
	Fail	4 11 28 34 47 48 72 84
1b	Pass	5 7 9 12 15 17 20 24 31 37 45 46 63 68 73
	Fail	8 10 14 16 19 26 29 40 41 42 67 71 74 80
1c	Pass	23 33 35 44
	Fail	
1d	Pass	6 27
	Fail	25 58 62 75 78 83
1e	Pass	22
	Fail	18 56 61 81
1f	Pass	2
	Fail	
1g	Pass	36 39 43 50 57 59
	Fail	66 69
1h	Pass	32 49 51 52 54
	Fail	38 60 64 70 77 82
1i	Pass	53 65
	Fail	76
1j	Pass	
	Fail	
1k	Pass	13 21 30 79
	Fail	55

Case 3 19 months, 12 days (continued)

2a	Pass	1 2 3 22 23
	Fail	4 11 58 84
2b	Pass	5 6 7 9 12 15 17 20 24 32 45 52
	Fail	8 10 14 16 19 28 29 34 42 74
2c	Pass	
	Fail	38 40 41 47 48 62 75
2d	Pass	39 43 50 57 59
	Fail	56 69
2e	Pass	33 44
	Fail	66 83
2f	Pass	13 21 27 30 79
	Fail	55
2g	Pass	37 46 49 51 54 63 68 73
	Fail	60 64 67 70 71 72 77 78 80 81 82
2h	Pass	31 61 65
	Fail	18 25 26
2i	Pass	35 36 53
	Fail	76
3a	Pass	5 15 16* 24* 25* 26
	Fail	21* 30* 32*
3b	Pass	3 4 6 7 11 19 20 28
	Fail	22 33 34
3c	Pass	1 2 10 12 13
	Fail	8 9 14 17 18 23 27 29 31

Case 4 30 months, 22 days

1a	Pass	
	Fail	89 94 106
1b	Pass	80 88
	Fail	95 112
1c	Pass	
	Fail	
1d	Pass	
	Fail	
1e	Pass	
	Fail	
1f	Pass	
	Fail	
1g	Pass	98
	Fail	
1h	Pass	
	Fail	91
1i	Pass	102 103 104 105 109
	Fail	87 90 92 93 99 107 108 110 114
1j	Pass	
	Fail	
1k	Pass	
	Fail	101 113

Case 4 30 months, 22 days (continued)

2a	Pass	
	Fail	
2b	Pass	
	Fail	91 93
2c	Pass	
	Fail	
2d	Pass	98
	Fail	
2e	Pass	
	Fail	
2f	Pass	
	Fail	101 106 113
2g	Pass	80 88 102 103 104 105 109
	Fail	87 90 92 95 99 107 108 110 112 114
2h	Pass	
	Fail	
2i	Pass	
	Fail	89 94
3a	Pass	39 41* 48
	Fail	
3b	Pass	40 42 43 46
	Fail	53 54
3c	Pass	45 47
	Fail	57

Case 4 24 months

1a	Pass	72
	Fail	84 89 94 106
1b	Pass	68 71 73 80 86 88
	Fail	74 95
1c	Pass	
	Fail	
1d	Pass	75 78 83
	Fail	
1e	Pass	
	Fail	81
1f	Pass	
	Fail	
1g	Pass	69 98
	Fail	
1h	Pass	70 91
	Fail	77 82
1i	Pass	76 87 93 104
	Fail	90 92 96 99 105 107 108
1j	Pass	
	Fail	
1k	Pass	
	Fail	79 101

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Case 4 24 months (continued)

2a Pass
Fail 84

2b Pass 91 93
Fail 74

2c Pass 75
Fail

2d Pass 69 98
Fail

2e Pass 83
Fail

2f Pass
Fail 79 101 106

2g Pass 68 70 71 72 73 78 80 86 87 88 104
Fail 77 81 82 90 92 95 96 99 105 107 108

2h Pass
Fail

2i Pass 76
Fail 89 94

3a Pass 39 41* 44 48
Fail

3b Pass 38 40 42 43
Fail 46 49 50 53

3c Pass 45
Fail 47 51 52

Case 4 31 months, 4 days

1a	Pass	
	Fail	89 94 106
1b	Pass	80 88
	Fail	95 112
1c	Pass	
	Fail	
1d	Pass	
	Fail	
1e	Pass	
	Fail	
1f	Pass	
	Fail	
1g	Pass	98
	Fail	
1h	Pass	
	Fail	91
1i	Pass	102 103 104 105 109
	Fail	87 90 92 93 99 107 108 110 114
1j	Pass	
	Fail	
1k	Pass	
	Fail	101 113

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Case 4 31 months, 4 days (continued)

2a	Pass	
	Fail	
2b	Pass	
	Fail	91 93
2c	Pass	
	Fail	
2d	Pass	98
	Fail	
2e	Pass	
	Fail	
2f	Pass	
	Fail	101 107 113
2g	Pass	80 88 102 103 104 105 109
	Fail	87 90 92 95 99 107 108 110 112 114
2h	Pass	
	Fail	
2i	Pass	
	Fail	89 94
3a	Pass	
	Fail	
3b	Pass	
	Fail	
3c	Pass	
	Fail	

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Case 5   32 months, 2 days (continued)

2a	Pass	
	Fail	
2b	Pass	91 93
	Fail	
2c	Pass	
	Fail	
2d	Pass	
	Fail	98
2e	Pass	116
	Fail	
2f	Pass	106
	Fail	
2g	Pass	90 92 95 96 99 100 102 103 107 109 111 114
	Fail	104 105 110 112 115 118 119 120 121
2h	Pass	
	Fail	
2i	Pass	89
	Fail	117
3a	Pass	30* 32* 35* 39 44 48
	Fail	41*
3b	Pass	33 34 37 38 40 42 43 46
	Fail	36 49 50 53
3c	Pass	29 31 45
	Fail	47 51 52

Case 5 36 months, 26 days

1a	Pass	106
	Fail	117
1b	Pass	112
	Fail	
1c	Pass	
	Fail	
1d	Pass	97
	Fail	
1e	Pass	
	Fail	
1f	Pass	
	Fail	
1g	Pass	98
	Fail	
1h	Pass	
	Fail	
1i	Pass	99 100 103 104 105 107 109 111 114
	Fail	102 108 110 115 118 119 120 121 122 123 124 125 129 130 132 134 135 137 138 139 141 142 143
1j	Pass	
	Fail	126 128 131 133 140
1k	Pass	101 113 116 127 136
	Fail	

Case 5 36 months, 26 days (continued)

2a	Pass	
	Fail	
2b	Pass	
	Fail	
2c	Pass	
	Fail	
2d	Pass	98
	Fail	
2e	Pass	116
	Fail	
2f	Pass	101 106 113 127 136
	Fail	124 130 138 141
2g	Pass	99 100 103 104 105 107 109 111 112 114
	Fail	102 108 110 115 118 119 120 121 122 123 125 126 128 129 131 132 133 134 135 137 139 140 142 143
2h	Pass	
	Fail	
2i	Pass	97
	Fail	117
3a	Pass	35* 39 44 48
	Fail	41*
3b	Pass	37 38 40 42 43 46 49 50
	Fail	53 54 56
3c	Pass	45 51 52
	Fail	47 55 57

APPENDIX B

BAYLEY SCALES OF INFANT DEVELOPMENT RECORD FORMS

D56 - D58 WERE NOT SUBMITTED TO EDRS

BIBLIOGRAPHY

BIBLIOGRAPHY

Baer, Donald M. An age irrelevant concept of development. *Merrill-Palmer Quarterly*, 1970, 16, 238-245.

Bayley, N. Comparisons of mental and motor test scores for age 1-15 months by sex, birth order, race, geographical location, and education of parents. *Child Development*, 1965, 36, 379-411.

Bayley, N. Consistency and variability in the growth of intelligence from birth to 18 years. *Journal of Genetic Psychology*, 1949, 75, 165-196.

Bayley, N. The development of motor abilities during the first three years. *Monographs of the Society for Research in Child Development*, 1936, Volume I.

Bayley, N. *Manual for the Bayley Scales of Infant Development*. New York: The Psychological Corporation, 1969.

Bayley, N. Mental growth during the first three years: a developmental study of 61 children by repeated tests. *Genetic Psychological Monographs*, 1933, 14, 1-92.

Bayley, N. On the growth of intelligence. *American Psychologist*, 1955, 10, 805-818.

Bayley, N. Value and limitations of infant testing. *Children*, 1958, 5, 129-133.

Bayley, N. & Jones, H. E. Environmental correlates of mental and motor development: a cumulative study from infancy to six years. *Child Development*, 1937, 8, 329-341.

Bell, S. M. Development of the concept of object as related to infant-mother attachment. *Child Development*, 1970, 41, 292-311.

Bensen, J. T. et al. Prevention, not remediation of infant learning deficits. *Journal of Learning Disabilities*, 1970, 3, 396-399.

Bijou, S. W. & Baer, D. M. *Child Development*. Volume I. New York: Appleton-Century-Crofts, 1961.

Calvert, D. R. Report on Rubella and Handicapped Children. Washington, D. C.: Bureau of Education for the Handicapped, 1969.

Cohen, J. The effects of blindness on children's development. *Children*, 1966, 13, 23-27.

Cooper, L. Z. & Krugman, S. Diagnosis and management: congenital rubella. *Pediatrics*, 1966, 37, 335-338.

Curtis, S. The evaluation of verbal performance in multiply handicapped blind children. *American Foundation for the Blind Research Bulletin*, Number 11, 1965.

Curtis, S., Donlon, E. T., & Wagner, E. *Deaf-Blind Children: Evaluating their Multiple Handicaps*. New York: American Foundation for the Blind, 1970.

Deutsch, C. Auditory discrimination and learning: social factors. *Merrill-Palmer Quarterly*, 1964, 10, 277-296.

Eisenberg, R., Griffin, E. J., Coursin, D. B., & Hunter, M. A. Auditory behavior in the human neonate: a preliminary report. *Journal of Speech and Hearing Research*, 1964, 7, 245-269.

Erickson, M. T. The predictive validity of the Cattell Infant Intelligence Scale for Young Mentally Retarded Children. *American Journal of Mental Deficiency*, 1968, 72, 728-733.

Freedman, D. A. Development of the use of sound as a guide to affective and cognitive behavior: a two-phase process. *Child Development*, 1969, 40, 1099-1105.

Friedlander, B. Z. Receptive language development in infancy: issues and problems. *Merrill-Palmer Quarterly*, 1970, 16, 7-51.

Gerber, S. E. Auditory behavioral responses of some hearing infants. *Volta Review*, 1969, 71, 340-346.

Gesell, A. L. & Amatruda, C. S. *Developmental Diagnosis; Normal and Abnormal Child Development, Clinical Methods and Practical Applications.* New York: Hoeber, 1947.

Guldager, V. *Body Image and the Severely Handicapped Rubella Child.* Watertown, Massachusetts: Perkins School for the Blind, 1970.

Haeussermann, E. *Developmental Potential of Preschool Children.* London: Grune & Stratton, 1958.

Hardy, J. B. Rubella and its aftermath. *Children*, 1969, 16, 91-96.

Haynes, U. *A Developmental Approach to Casefinding.* U. S. Department of Health, Education, and Welfare, 1969.

Hicks, D. E. Comparison profiles of rubella and non-rubella deaf children. *American Annals of the Deaf*, 1970, 115, 86-92.

Horowitz, F. D. Research strategies and concepts of development and learning. *Merrill-Palmer Quarterly*, 1970, 16, 235-237.

Illingworth, R. S. *The Development of the Infant and Young Child; Normal and Abnormal.* (2nd ed.) Baltimore: Williams & Williams, 1963.

Illingworth, R. S. *An Introduction to Developmental Assessment in the First Year.* Little Clubs Clinic in Developmental Medicine 3.

London: National Spastics Society, 1962.

Jordan, T. E. & Spaner, S. D. Biological and ecological influences on development at 12 months of age. *Human Development*, 1970, 13, 178-187.

Keogh, B. K. & Carbuhn, W. M. Early identification of educationally high-potential and high-risk children. *Journal of School Psychology*, 1970, 8, 285-290.

Knobloch, H. & Pasamanick, B. Prediction from the assessment of neuromotor and intellectual status in infancy. In J. Zubin and G. A. Jervis, (Eds.), *Psychopathology of Mental Development.* New York: Grune & Stratton, 1967, pp. 387-400.

Lord, F. E. Development of scales for the measurement of orientation and mobility of young blind children. *Exceptional Child*, 1969, 36, 77-81.

Lowenfeld, B. Multihandicapped Blind and Deaf-Blind Children in California. A Report submitted to the California State Department of Education, Division of Special Schools and Services, 1968.

Lowenfeld, B. *Our Blind Children; Growing and Learning with Them.* Springfield, Illinois: Charles C. Thomas, 1964.

Moor, P. Blind children with developmental problems. *Children*, 1961, 8, 9-13.

Norris, M. What affects blind children's development. *Children*, 1956, 3, 123-129.

Norris, M., Spaulding, P. J., & Brodie, F. H. *Blindness in Children.* Chicago: University of Chicago Press, 1957.

Report on Conference of Children with a Combined Visual and Auditory Handicap, at Condover Hall School, Shropshire, England, 1961, The Royal National Institute for the Blind, London.

Robbins, N. & Stenquist, G. *The Deaf-Blind "Rubella" Child.* Watertown, Massachusetts: Perkins School for the Blind, 1967.

Root, F. K. & Riley, B. G. Study of deaf-blind children: a developmental plan. *The New Outlook for the Blind*, 1960, 54, 206-210.

Sever, J. L., Hardy, J. B., Nelson, K. & Gilkeson, M. R. Epidemiological observations of rubella in the collaborative perinatal research study. Proceedings, International Conference on Rubella Immunization, February 18-20, 1969.

Share, J., Koch, R., Webb, A. & Graliker, B. The longitudinal development of infants and young children with Downs Syndrome (mongolism). *American Journal of Mental Deficiency*, 1964, 68, 685-692.

Shirley, M. N. *The First Two Years.* Volume I. Minneapolis: University of Minnesota Press, 1931.

Stedman, D. Developmental-Behavioral Patterns in 26 Culturally-Disadvantaged Infants. Durham, North Carolina: Duke University, 1967.

Stott, L. H. & Ball, R. S. *Evaluation of Infant and Preschool Mental Tests.* Detroit: Merrill-Palmer Institute, 1963.

Thomas, H. Psychological assessment instruments for use with human infants. *Merrill-Palmer Quarterly*, 1970, 16, 179-223.

Vernon, M. Characteristics associated with post-rubella deaf children. *Volta Review*, 1967, 69, 176-185.

Willerman, L. et al. Infant development, preschool IQ, and social class. Child Development, 1970, 41, 70-77.

Wolf, J. M. & Anderson, R. M. (Eds.) The Multiply Handicapped Child. Springfield, Illinois: Charles C. Thomas, 1969.

D66-D68 WERE NOT SUBMITTED TO EDRS.

APPENDIX E

Infants Served by the Home Teachers

Children	Crippled	Vision	Hearing	Brain Damage	Behavior	Functional Retardation	Cultural Deprivation	Additional Physical Problems
Je	X			X		X		X
Ki	X				X			X
Ri	X					X		X
Ti	X							X
Al	X					X		X
Ch	X				X			X
Ja	X				X			X
Ru	X	X		X		X	X	X
Wi	X	X	X	X	X	X	X	X
Yo	X	X				X		
Jn		X	X	X		X	X	X
Mo		X		X		X		X
Ke				X		X		X
Vi		X				X	X	
Jm	X	X	X			X		X
Gr	X			X		X	X	X
Ta		X		X		X		X
Bi		X	X	X		X		X
Je	X	X	X	X		X		X
To		X			X			
Br	X	X	X	X	X	X	X	X
Be	X			X				X
Jo	X	X			X	X		
St		X						
Mi		X			X	X	X	

APPENDIX F
SEMINAR ON DEAF-BLIND CHILDREN
Orlando, Florida
February 26-27, 1971

REPORT

The purpose of the second Seminar on Deaf-Blind Children was like the first one--to provide insights into how those in attendance could help parents find ways to train and educate their deaf-blind children. The presenters, Dr. Verna Hart, Director, Program for Multiply Handicapped Children; Miss Carlene Dallinga, Coordinator of Evaluations for the Southeast Regional Center for Deaf-Blind Children; and, Miss Patricia J. Schliskey, Lecturer in Special Education, were members of the staff of Peabody College. They were well qualified to discuss the subject.

Mr. Robert Smithdas, Director of Community Education at the Industrial Home for the Blind, an outstanding deaf-blind person, was to have been in attendance to discuss the function of the National Center for Deaf-Blind Youths and Adults but was unable to attend because of a death in his family. Although his presence would have added much to the program, sympathy was with him and his family.

Those invited to attend were persons in responsible positions in public and private agencies who are likely to be asked to assist parents of deaf-blind children in counseling and finding training and educational placements. It is regretted that many who were invited were unable to attend.

Within the State of Florida there are more than eighty children reported to have severe visual and auditory impairments. Some of these are victims of the recent rubella epidemics, and present many unique training and educational challenges. Much of the discussion was focused on this group.

F 2

SEMINAR ON DEAF-BLIND CHILDREN
February 26-27, 1971

Coordinated by Joel R. Hoff
Florida School for the Deaf and the Blind
St. Augustine, Florida 32084

Parliament House
410 N. Orange Blossom Trail
Orlando, Florida 32805

Presenters from Peabody College

Dr. Verna Hart, Director
Program for Multiply Handicapped Children

Miss Patricia Schliskey, Lecturer
Special Education

Miss Carlene Dallinga, Evaluations Coordinator
Southeast Regional Center for Deaf-Blind Children

FRIDAY

8:00 a.m.	Registration	
9:00 a.m.	"Introduction to Multiple Handicaps" (Deaf-Blind)	Dr. Hart Miss Schliskey
10:15 a.m.	Coffee Break - Registration of "late-comers"	
10:30 a.m.	"Evaluation of the Multiply Handicapped" (Deaf-Blind)	Miss Dallinga
12:00 noon	Luncheon at Parliament House	
1:30 p.m.	"Let's Meet David" (3 year-old Rubella Impaired Youngster)	
1:45 p.m.	Mrs. Wright (Mother of a Deaf-Blind Child)	
2:00 p.m.	"What Parents Should Know About Motor Skills"	Panel
2:30 p.m.	Coffee Break	
2:40 p.m.	"What Parents Should Know About Communication"	Panel
4:00 p.m.	Movie: "Children of the Silent Night" and discussion	
4:30 p.m.	"Function of the National Center for Deaf-Blind Youths and Adults" (Brief statement)	Mr. Hoff
5:00 p.m. - 6:00 p.m.	Social Hour	

SATURDAY

9:00 a.m.	"What Parents Should Know About Adaptive Behavior"	Panel
10:15 a.m.	Coffee Break	
10:30 a.m.	"What Parents Should Know About Self-Care Skills"	Panel

QUESTION AND ANSWER SESSIONS FOLLOWED EACH PRESENTATION

SOURCES OF INFORMATION

Southeast Regional Center for Deaf-Blind Children
P. O. Box 268
Talladega, Alabama 32160

Perkins School for the Blind
Department for Deaf-Blind Children
175 N. Beacon Street
Watertown, Massachusetts 02172

The New York Institute for the Education of the Blind
999 Pelham Parkway
Bronx, New York 10469

The Industrial Home for the Blind (serving adults)
National Center for Deaf-Blind Youths and Adults
57 Willoughby Street
Brooklyn, New York 11201

American Printing House for the Blind, Inc.
1839 Frankfort Avenue
Box 6085
Louisville, Kentucky 40206

American Foundation for the Blind, Inc.
15 West 16th Street
New York, New York 10011

MOVIES

"Children of the Silent Night"

"The Legacy of Anne Sullivan"

"There is a Silver Lining" (Adult Deaf-Blind)

Above films are available from Campbell Films Library, Saxtons River, Vermont 05154.

PUBLICATIONS

"Understanding your Blind Child" (free) from the New York Association for the Blind, 11 East 59th Street, New York 10022.

"A Handbook for Parents of Deaf-Blind Children" by Jeanne Esche and Carol Griffin. From Instructional Materials Development Center, Michigan School for the Blind, Lansing, Michigan.

PUBLICATIONS...CONT'D

"Educational Beginnings with Deaf-Blind Children" by Nan Robbins.

"Speech Beginnings for the Deaf-Blind Child" by Nan Robbins.

"Auditory Training in the Perkins Deaf-Blind Department" by Nan Robbins.

"Body Image and the Severely Handicapped Rubella Child" by Virginia Guldager.

Above publications can be purchased for $2.00 per book from Perkins School for the Blind, 175 N. Beacon Street, Watertown, Massachusetts 02172.

"Deaf-Blind Children: Evaluating Their Multiple Handicaps" - Scott Curtis, Edward T. Donlon, Elizabeth Wagner, editors. From the American Foundation for the Blind, 15 West 16th Street, New York, New York 10011.

"Deaf-Blind Children - A List of References" by Edwin K. Hammer, Ph.D., Area Centers for Services to Deaf-Blind Children, Callier Hearing and Speech Center, 1966 Inwood Road, Dallas, Texas 75235.

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(Total 41)

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St. Augustine, Florida 32084

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Bureau of Blind Services
2720 Park Street, Room 217
Jacksonville, Florida 32205

Mrs. Bessie B. Wilson
1019 28th Street
Riviera Beach, Florida

Your participation was most appreciated.

J.R.H.

COMMENTS

"This was a most meaningful meeting. -- Topics were pertinent and well presented. The "down-to-earth" nature of the presentations was particularly appreciated. The abilities, interest, and sincerity of the presenters was obvious and contributed to the value of the program. It would be hard to suggest areas for improvement."

---

"Excellent comprehensive program. Would like to have heard more success stories during adulthood. -- I personally was disappointed because more school social workers or visiting teachers did not attend. A very helpful program."

---

"Very enjoyable meeting--both in content, presentation and length. Appreciate the practical approach instead of lots of theory."

---

"Individual case analysis most helpful. Special cases - examples good. -- Discussion, way of handling - good and most helpful to all. -- Could use more written material (like manual, pamphlets, etc.) to study and take home...needed to reinforce what we have learned. -- Could use pamphlet-like dictionary on eye and ear illnesses. -- Best conference I have attended in a long time."

---

"The most amazing thing about this work is the absolute dedication of those who do it. This is so rare a talent--and so much damage can be done by those who don't possess it--that it seems like knowing where to find it, is most important. -- Television being a means of mass education, could the Peabody facility be featured on a program like "60 Minutes"? It would be fascinating and worthwhile."

---

"I found this seminar most informative and beneficial especially since I have no experience or training specifically for deaf-blind. The many concrete examples and illustrations were great! Wish I could actually see your program in action and participate. -- The hand-out material and reference materials give me something to go on to get more information. -- The relaxed setting made me comfortable...rather than being told this and that, we were able to participate. -- Very well done!!!"

---

COMMENTS...CONT'D

"This program was very informative and very important. -- I certainly think that more teachers should have been here. They need this kind of information. -- Keep up the good work!!"

"Very informative Deaf-Blind Seminar. Gave myself more knowledge of the problems, solutions, and potentials of all levels of deaf-blind. -- As rehabilitation counselor, I would probably not use the indicated techniques directly, but use them as a source of information to others. -- It is my feeling that there should have been a wider representation of personnel involved with the multi-handicapped from special education public school settings, Florida School for the Deaf and the Blind Departments and other sources involved with indicated multi-handicapped. -- I would have appreciated more actual demonstration of procedures. Also, more audience participation other than questions, needed."

"Overall, I feel that this seminar has been most informative. However, I do think that more visual examples in the form of slides would be helpful when discussing the teaching of skills, etc."

"This seminar was beneficial to me as it provided information regarding the down-to-earth methods of working with these deaf-blind children. At least we are now aware of the services available and the resources that can be utilized. -- This type of seminar can be valuable to our school programs as so much of the material presented here can be adjusted to our program as we also deal with teaching independent living skills. The methods that are explained in this conference can also be applied in many areas as the basic idea can be utilized. -- Another reason that the seminar has been helpful is it gave a knowledge of what is available for the deaf-blind adult. Therefore, we will not be at a loss when we are confronted with this particular handicapped person. -- The experiences of the work done with these children are valuable as it provides an insight into the problems of communication and how to work with them."

"The seminar did not apply to the age group that I work with. However, the program was very interesting and I feel I have learned from the panel's experiences and insight in working with the multiple handicapped child. -- I think that everyone present should now have a good basic understanding of the many problems that we must deal with in "habilitating" the multiple handicapped child."

COMMENTS...CONT'D

"I work with blind adults rather than with children. Thus, I feel that this program is not all that beneficial to me as far as my work is concerned. However, I found the program very informative and will be able to pass on some valuable information to some of my co-workers who do work with children. -- It is good to know that there are places available which can adequately evaluate one's potential, as well as give teaching suggestions for socializing these children. Programs such as the one offered through Peabody are truly necessary in order to help these children become more human and to help those that are educable find their slot in life."

"Good overview of total program as stated. -- Helped me understand a lot about deaf-blind children and what is being done for them."

"A suggestion: More information regarding counseling parents who have a deaf-blind child."

"For my purposes, being the Orlando VR district office counselor for the deaf, the information received in this seminar is extremely valuable. In my caseload presently, I have 3 rubella young adults who I now realize are the "cream of the crop." -- The valuable things I have derived from the seminar are: (1) knowledge of resources available to parents nationally which I might pass on to persons with whom I have contact, (2) knowledge of techniques in dealing with multiple handicapped youngster's problems which I can often pass on to parents with whom I frequently have contact (I am consulted often for advice by parents of youngsters not old enough to be clients), (3) general knowledge which will aid me in giving wise counsel, generally, to parents of multiply handicapped kids pertinent to the potential of their child to be independent. -- What I would like in addition (though I realize these may be beyond the intended scope of this seminar): (1) factors in the assessment of vocational potential of deaf-blind young adults, (2) a briefing on future planning and a possible review of agency responsibilities for my personal reference."

"A very good meeting. - Worthwhile - Excellent - Knowledgeable panel!"

FLORIDA'S BUREAU OF BLIND SERVICES
Children's Counselors

Name and Address	County Assignments
Miss Karen Johnson Children's Counselor Bureau of Blind Services P. O. Box 8014 Pensacola, Florida 32505	Escambia Santa Rosa Okaloosa Walton Holmes Washington Bay Jackson Calhoun Gulf
Mrs. Hilda Lewis Social Service Worker Bureau of Blind Services 128 West Pensacola Street Tallahassee, Florida 32301	Gadsden Liberty Franklin Leon Wekulla Jefferson Madison Taylor
Mr. Frasier Williams Medical Counselor Bureau of Blind Services 2720 Park Street Jacksonville, Florida 32202	Columbia Baker Bradford Union Clay Nassau Duval
Mrs. Barbara George Children's Counselor Bureau of Blind Services P. O. Box 1151 Daytona Beach, Florida 32015	Brevard Putnam St. Johns Flagler Volusia
Mr. R. O. Robertson Social Service Worker Bureau of Blind Services P. O. Box 1151 Daytona Beach, Florida 32015	Lake Orange Osceola Seminole
Mrs. Connie DeMarco Children's Counselor Bureau of Blind Services 125 Lake View West Palm Beach, Florida 33400	Indian River Okeechobee St. Lucie Glades Hendry Martin Palm Beach Broward
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Mr. James E. Dameron Children's Counselor Bureau of Blind Services P. O. Box 1229 Tampa, Florida 33600	Citrus Pasco Hillsborough Sumter Hernando Polk Pinellas Manatee Hardee Highlands De Soto Charlotte Lee Collier Sarasota
Mrs. Hazel B. Johnwick Social Service Worker Bureau of Blind Services 417 S. W. 8th Street Gainesville, Florida 32601	Hamilton Suwannee Lafayette Dixie Gilchrist Levy Alachua Marion

Please contact the person listed above if you know of a deaf-blind child in their area, or contact Joel R. Hoff, Coordinator, Services for Deaf-Blind Children of Florida, P. O. Box 1209, St. Augustine, Florida 32084.

Appendix G

SPECIAL STUDY INSTITUTE

June 28-August 6, 1971

TOPIC: PROFESSIONAL PREPARATION OF TEACHERS OF THE MULTIPLY HANDICAPPED WITH SPECIAL CONCERN DIRECTED TOWARD THE CHILD WITH BOTH AUDITORY AND VISUAL IMPAIRMENTS

CONDUCTED BY:

Pennsylvania Department of Education
Bureau of Special Education
University of Pittsburgh
Western Pennsylvania School for Blind Children

FUNDING SERVICES

Public Law 91-230
Public Law 89-313
Regional Deaf-Blind Center

FORWARD

The primary purpose of the six-week Special Study Institute was to provide professional preparation for teachers to work with children who have both auditory and visual impairments. Secondary purposes were to provide children with a four-week short-term educational program and to demonstrate this program to the professional community.

Three proposals were submitted to support the Institute. Applications were made to the Pennsylvania Department of Education, Bureau of Special Education for funds from the Regional Deaf-Blind Center to support consultants to the program, and for funds under Public Law 91-230 for students' stipends and support funds. The third proposal under Public Law 89-313 was submitted by the Western Pennsylvania School for Blind Children to support the residential program for the children.

Participants for the Institute were selected by a committee from the Department of Education, Bureau of Special Education and the University Faculty. Applications were received from throughout the state. The thirteen selected participants were from public and private day school programs, residential schools for both the deaf and the blind, a state home and residential training school, and a private residential facility for the multiply-handicapped. Included in the group were an occupational therapist, a graduate child development specialist, a graduate student, a pre-school specialist, and an orientation and mobility specialist in addition to teachers of the deaf, multiply-handicapped, and visually handicapped.

Referrals of children were accepted from the Pittsburgh Branch of the Pennsylvania Association for the Blind; the Pennsylvania Department of Welfare, Office for the Visually and Physically Handicapped; the Pennsylvania Department of Education, Bureau of Special Education; local and residential schools; and a state home and training school. A screening clinic was held in the early spring to observe the children and to gather basic information about them. The clinic was staffed by the primary consultant to the Institute, administrators from the Western Pennsylvania School for Blind Children and the University Faculty. Twelve children demonstrating a wide range of abilities and handicaps were accepted for the program.

Consultants responsible for instructional material and demonstration were all selected from the George Peabody College for Teachers, Nashville, Tennessee. This decision was made to assure continuity between the philosophy and theoretical bases presented, and the actual demonstration teaching with children. The University of Pittsburgh faculty leant support to the consultans and coordinated Institute activities. Two additional educational consultants were involved to assist in post-Institute planning for the children. A pediatric ophthalmologist assisted in providing medical information to the staff as it pertained to specific children.

The Western Pennsylvania School for Blind Children recruited and provided orientation to the child care workers and nursing staff who were involved in the residential aspects of the program.

This summary of the Institute reports selected examples of various aspects of the total program. It is descriptive in nature to provide the reader with an overview of the activities of the Institute and a brief description of the children and their educational programs. All the participants in the Institute contributed the material included in this Summary Report.

R. L. P.

PERSONNEL

UNIVERSITY OF PITTSBURGH FACULTY

Department of Special Education and Rehabilitation
Education for the Visually Handicapped

Ralph L. Peabody, Coordinator
Mary W. Moore
Bruce B. Blasch

CONSULTANTS

George Peabody College for Teachers
Department of Special Education

Verna Hart - Assistant Professor, Coordinator, Program for Multiple Handicaps

Carlene Dallinga - Coordinator of Evaluation and Treatment, Peabody Deaf-Blind Center

Virginia Smith - Head Teacher, A Team Teaching Practicum for Teacher Preparation in Multiple Handicaps

Manuel Martinez - Teacher, A Team Teaching Practicum for Teacher Preparation in Multiple Handicaps

Mary T. Young - A Team Teaching Practicum for Teacher Preparation in Multiple Handicaps

Pennsylvania Department of Education, Bureau of Special Education

Elinor Long - Supervisor, Programs for the Visually Handicapped

Western Pennsylvania School for Blind Children
Janet G. Klineman - Educational Director of Lower School

Pediatric Ophthalmologist
David Hiles, M.D.

PARTICIPANTS

Mrs. Elizabeth DePiero - Teacher, Blind Multiply-Handicapped Children, Western Pennsylvania School for Blind Children, Pittsburgh, Pennsylvania

Mr. Andrew Frazier - Mobility Instructor, Allegheny County Schools, Pittsburgh, Pennsylvania

Mrs. Merle D. Griff - Child Care Worker, Western Pennsylvania School for Blind Children, Pittsburgh, Pennsylvania

Miss Janalyn F. Haas - Therapeutic Activities Worker Western State School and Hospital, Canonsburg, Pennsylvania

Miss Margaret V. Henderson - Teacher, Visually Handicapped Children, School District of Philadelphia, Pennsylvania

Miss Eileen C. Kalbach - Teacher, Visually Handicapped Montgomery County Schools, Norristown, Pennsylvania

Miss Gail McClelland - Teacher, Blind Multiply Handicapped Children, Upsal Day School for Blind Children, Philadelphia, Pennsylvania

Sister Edna Marie Meyers, S.C. - Teacher in Special Education - Deaf, the DePaul Institute, Pittsburgh, Pennsylvania

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WESTERN PENNSYLVANIA SCHOOL FOR BLIND CHILDREN

Administrative Staff

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Regis Ferson - Assistant Superintendent
Robert Hughes - Administrative Assistant
Janet Klineman - Educational Director of Lower School

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Rebecca Kiziri
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Joanne Cuccaro (Pennsylvania Office for the Visually and Physically Handicapped)
Richard Giardino (Pennsylvania Office for the Visually and Physically Handicapped
James Millword (Pennsylvania Office for Visually and Physically Handicapped)

Nursing Staff

Helen Santillo
Mary Sharief
Ann Useller

INSTRUCTIONAL PROGRAM

Dr. Verna Hart of George Peabody College for Teachers conducted the instructional program during the first two weeks of the Institute. She presented the characteristics of the children being studied, and the theoretical background for the methods to be used during the demonstration period of working with children, and instructed the techniques involved. The participants reviewed pertinent literature to supplement the didactic aspects of the program. Many training films and slide presentations were included to demonstrate both characteristics of the children and specific methods utilized in their education. Materials provided by Dr. Hart were distributed and a selection of these materials are included in Appendix A.

The following log is included in this report for the purpose of indicating to the reader the comprehensiveness of the program. It merely indicates "bare topics" and not actual content. The following log is included in this report.

LOG

6/28 Overview of the Institute

A look at the multiply-handicapped child
  Causes of handicaps
Information of characteristics of rubella children
  Causes of rubella
  Prevention of rubella

6/29 Characteristics of rubella children - continued

Video tape of child in testing and observation situation
Discussion of techniques used for teaching communication

6/30 What to look for in an evaluation report

1. Heart
2. Eyes
3. Ears
4. Teeth
5. Gait
6. Social history
7. Psychological reports

On educational evaluation

1. Modality of learning
2. Body image
3. Locomotion
4. Memory
5. Speech and language development
6. Socialization

Video tapes of seven children demonstrating different developmental patterns

7/1 Evaluation instrument

The team approach
  A rationale
  in teaching
    Self care
    Motor skills
    Adpative behavior
    Communication

Characteristics of Epileptic Children

Introduction to precision teaching

Video tapes of two children in a feeding program and of a group activity

Steps in forced feeding

7/2 A review of normal child development

The uses of charts and manuals to assure consistency in training children (Examples included in other sections of this report.)

Slide presentation of a feeding program

The autistic child and autistic tendencies in deaf-blind children

Basic mobility techniques with blindfods and special glasses (Presented by Orientation and Mobility Specialists--Bruce Blasch, Andrew Frazier, and Kathy Daugherty)

Introduction to manual communication

7/6 Comparison of early rubella children with those of today

Care of a child in braces

Curriculum concepts

  Body image
  Sensory discrimination
  Concept development
  Directionality
  Measurement
  Time
  Clothing
  Eating

- Grooming
- Household furnishings
- Family
- Vocabulary
- Incidental learning
- Phrases

Brain injury and its implications
- Aphasia

Handling behavior problems

Video tapes of classroom group activities

7/7 Cerebral Palsy

- Types
- Helps - special equipment

Brain injury

- Medication and structuring
- Tadoma Method for deaf blind children

Video tapes of children to be in four weeks demonstration program, noting how they function alone, with stimulation, in a structured situation and how they relate to people

7/8 Precision teaching

- Pinpoint behavior
- Record behavior
- Compute rate
- Chart
- Change

Further observation via video tapes of children to be in Demonstration Program

7/9 Precision teaching

- Recording
  - Charts
  - Time probes
  - Toileting

Assignment of children to teachers and formation of teams

Development of schedules

Planning first week's activities

DEMONSTRATION PROGRAM

The demonstration aspects of the Institute consisted of two related programs. Daily from 9:00 A.M. to 3:30 P.M. the Teacher-Participants with the consultants from George Peabody College for Teachers worked directly in the educational program with the children. Each afternoon from 3:00 P.M. to 3:30 P.M. the Teacher-Participants conferred with the Child Care Workers to assure consistency in contacts with the children. Then from 3:30 P.M. until 9:00 P.M. the Residential Staff were responsible for the program activities for the children and provided training and supervision within the dormitory.

EDUCATIONAL PROGRAM

The educational program primarily concentrated on three curricular areas:

Adaptive Behavior
Motor Skills
Communication Skills

The education program for each child was based on functional levels determined through observation, and utilized such materials as "A Manual for the Development of Self-Help Skills in Multiple Handicapped - Experimental Edition" (See Appendix A). Traditional evaluations were not made, although previous records were available for reference purposes.

A daily schedule was developed, and periodically revised. A different Teacher-Participant planned the daily total group activity on a rotation plan following a weekly theme. Small group activities were conducted within a team-teaching structure in three curricular areas. Teachers-Participants were assigned specific children with whom they were to work the first week. Although they were reassigned to other children for individual sessions periodically throughout the four week session, each child retained his original teacher for two short periods daily.

An activity which presented particular difficulty to more than half of the children was eating. A number of the children, for example, had not previously experienced solid foods. Therefore, the teachers actively participated in the feeding program. As in other aspects of the program, the assignment of children to teachers was periodically changed.

Through the periodic reassignment of Teacher-Participants to various activities and children, the Teacher-Participants were assured a much greater range of experiences. This procedure made it possible to have direct contact and responsibility with both the most complex children as well as those with less serious handicapping conditions. This policy also contributed to the primary purpose of the Institute, that of providing professional preparation for teachers. Safeguards were built into the program to assure consistency in working with the children.

The educational program was specifically designed for the individual children in the program. Therefore detailed descriptions of the total program would be inappropriate in a report of this nature. However, examples of the recording procedures for special behavioral objectives are included to demonstrate the practice of pinpointing minute objectives.

Figure 1 shows the progress (in grooming skills) of one of the more competent children (See Appendix A for complete manual). When the child is already competent in a skill an X is put in the appropriate square on the chart. When the child is working on a particular skill, a circle is put in the box. When a task has been accomplished, an X is put over the circle.

SELF HELP DEVELOPMENT

GROOMING SKILLS

WASHING	Will do job with complete physical and verbal help	Needs physical guidance and verbal help	Needs only a slight physical cue and verbal help	Needs only a verbal cue	Total independence: references to do this task in sequence
LEVEL 1 - The child:					
1. Shows interest in playing in the water; permits hands to be washed and dried	X	X	X	X	X
2. Shows interest in faucet and stopper	X	X	X	X	X
LEVEL 2 - The child:					
3. Locates sink	X	X	X	X	X
4. Locates faucet	X	X	X	X	X
5. Turns water on	X	X	X	X	X
6. Wets one hand	X	X	X	○	
7. Wets both hands	X	X	X	○	
8. Locates soap	X	X	○		
9. Gets soap on hands					
LEVEL 3 - The child:					
10. Rubs soap on hands	X	X	○		
11. Rinses hands	X	X	○		
12. Locates faucet	X	X	X	X	X
13. Turns water off	X	X	X	X	X

FIGURE 1

GROOMING SKILLS (cont.)

	Will do job with complete physical and verbal help	Needs physical guidance and verbal help	Needs only a slight physical cue and verbal help	Needs only a verbal cue	Total independence: remembers to do this task in sequence
14. Locates towel					
15. Takes towel	☒	☒	☒	☒	☒
LEVEL 4 - The child:					
16. Dries hands	☒	☒	☒	☒	☒
17. Locates waste basket	☒	☒	☒	☒	☒
18. Throws towel away or hangs it up	☒	☒	☒	☒	☒
LEVEL 5 - the child:					
19. Turns on hot and cold faucets for warm water	☒	☒	☒	☒	☒
20. Washes his hands at the appropriate times, independently	☒	☒	[✓ ☒]	[✓ ☒]	
21. Gets washcloth wet	☒	☒	☒	☒	
22. Rubs soap on cloth	☒	☒	☒		
23. Washes face (not ears)	☒	☒	☒		
24. Rinses cloth	☒	☒			
25. Rinses face	☒	☒	☒		
26. Rinses cloth and puts it up to dry	☒	☒	[✓]		
27. Rubs face dry	☒	☒	☒	☒	

FIGURE 1 (a)

BEST COPY AVAILABLE

	Will do job with complete physical and verbal help	Needs physical guidance and verbal help	Needs only a slight physical cue and verbal help	Needs only a verbal cue	Total independence: remembers to do this task in sequence
LEVEL 6 - The child:					
28. Washes face at appropriate times	☒	☒	☒	☒	
29. Bathes self (assisted with preparing bath and touching up)	☒	☒	☒	☒	
LEVEL 7 - The child:					
30. Prepares bath water	☒				
31. Bathes self independently	☒	☒	☒		

FIGURE 1 (b)

"Probe Charts" (See Figure 2) were used to record specific behaviors. These charts were utilized for both the elimination of undesirable behavior and the development of new behavior. Precise observation and timing were necessary to determine the progress of the behavior probed. The following chart demonstrates the ability of the child to attend to the task on a simple game.

Each "Probe Chart" was then put onto a graph to show instantly gains or losses which had taken place. The activity depicted on the graph (see Figure 3) is of a child in a simple auditory activity

PROBE CHART

Name	Behavior	Setting	Command	+	-	↑	↓	Number of Movements	Number of Minutes	Time		Rate	
										Begin	End		
Jimmy	put doughnut on stick when placed in hand	in chair at small, oblong table	"On the stick"	light rein.	repeat comm. holding dough. in hand	skill in movement	resist	5	1.5	2:15	2:16:30	3.3	7/14
		at smaller table						2	2	2:21	2:23	1.0	7/15
								10	2	2:48	2:50	5.0	7/19
								14	1.5	2:38	2:39:30	9.3	7/20

FIGURE 2

G16

Behavior	Setting	Command
Reach toward sound of toy guitar, bell, cymbal and tambourine	Seated in chair and quiet; noise made close to but not touching either ear	Sound of noise

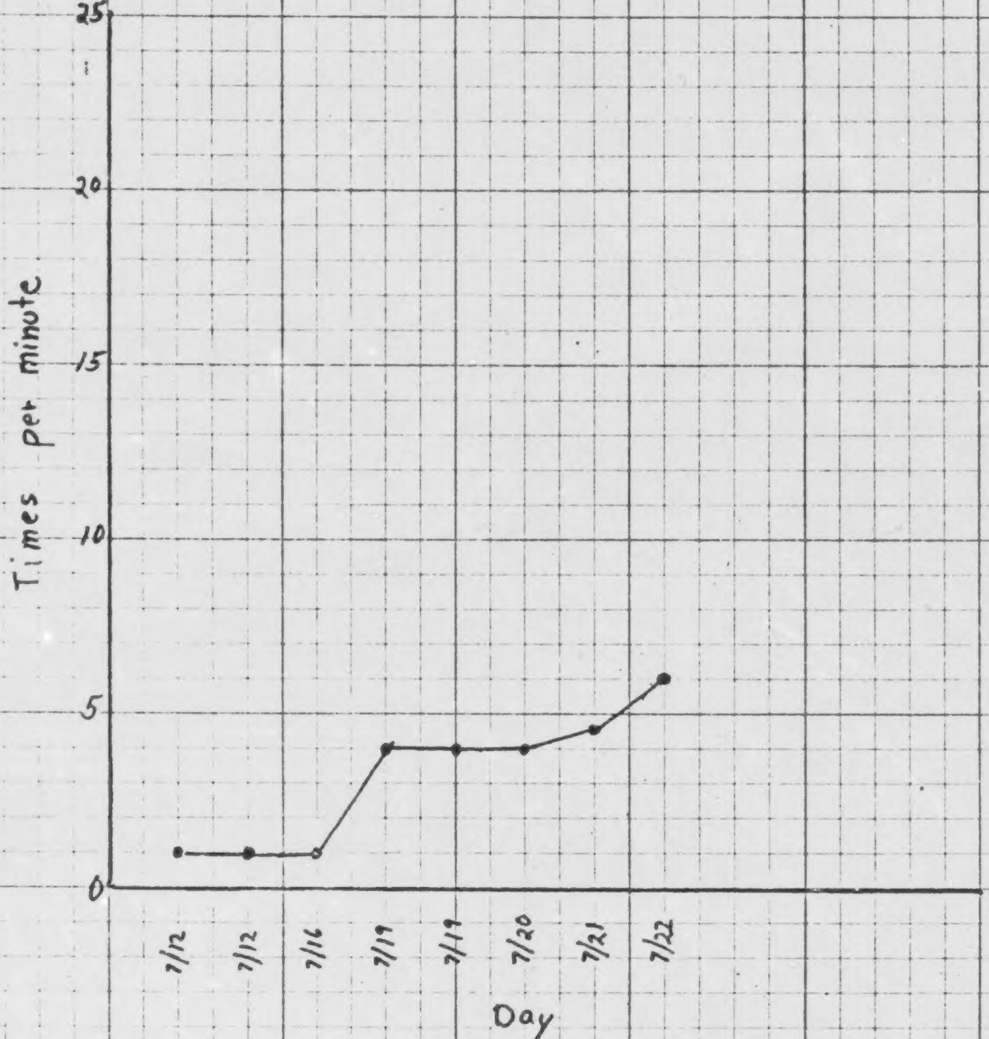

FIGURE 3

5 Squares to the Inch

Toileting Charts (See Figure 4) were kept 24 hours per day seven days a week (parents cooperating on weekends) for all children not toilet trained. The following symbols were used on the charts:

W - Wet not on toilet
S - Soiled not on toilet
O - Placed on toilet without any success
W - Wet on toilet
S - Soiled on toilet

The following chart shows a child with a tendency toward a set pattern of urination by the clusters of W's. After rather random placement on the toilet without success the pattern was recognized and as can be seen the child had nearly complete success by the fourth week of the program. Charting the behavior in this manner aided in establishing the pattern and training the child.

Time	7/12 M	T	W	Th	F	S	Sun	M	T	W	Th	F	S	Sun	M	T	W	Th	F	S	Sun	M	T	W	Th	F	S	Sun
a.m.																												
7:00								ω	o													o			(ω)			
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8;40									ω			o					o											
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9:00										o																		
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FIGURE 4

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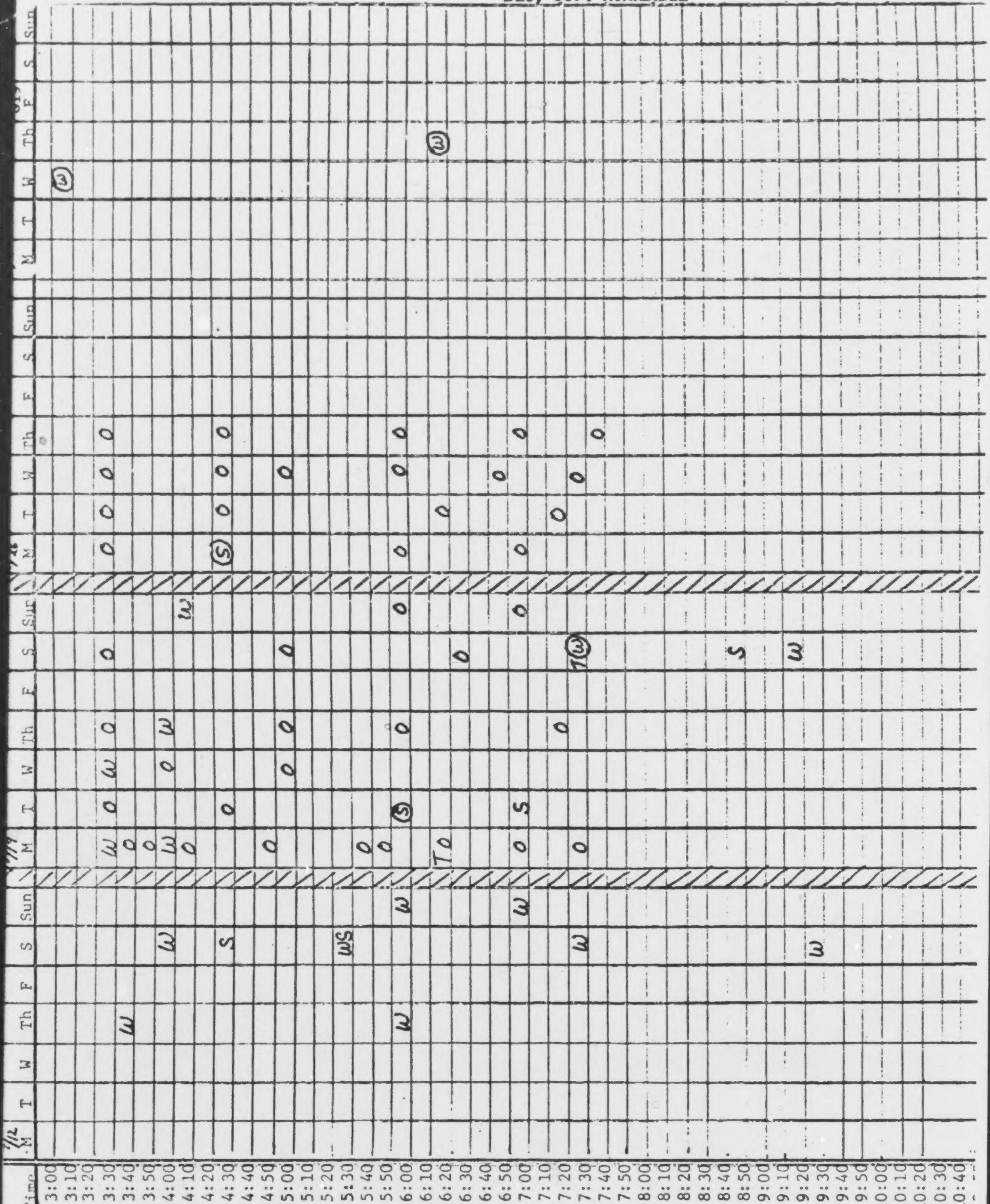

FIGURE 4 (a)

	7/12							7/19							7/26							8/2			G20			
Time	M	T	W	Th	F	S	Sun	M	T	W	Th	F	S	Sun	M	T	W	Th	F	S	Sun	M	T	W	Th	F	S	Sun
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5:40																												
5:50				BH																								
6:00				W																								
6:10																												
6:20																												
6:30									W																			

FIGURE 4 (b)

The proceeding charts as well as other rather detailed records were kept on all the children. These will be forwarded to appropriate agencies and schools as the children are placed in programs.

RESIDENTIAL PROGRAMS

Residential care for the twelve multiply handicapped children was provided at Western Pennsylvania School for Blind Children. This aspect of the project, directed by Dr. Janet Klineman, followed the objectives and procedures planned and supervised by the consultants and staff members of George Peabody College for Teachers and taught by the consultants during the in-service training sessions.

Eight child care workers lived on the campus and provided the follow-through program from 3:00 P.M. to 9:00 A.M. Sunday afternoons through Friday mornings. (Arrangements had been made for all the children to be with their families over the weekends.) The educational backgrounds of the child care workers included the study of child care and development, psychology, education, and music. Four child care workers were members of the Title I, 89-313 project for multiply handicapped blind children at Western Pennsylvania School for Blind Children in 1970-71.

In order to provide the necessary one-to-one relationships with the children, the child care workers were assisted by case workers from three district offices of the Bureau of Visually and Physically Handicapped, two practicum graduate students from the University of Pittsburgh Special Education and Rehabilitation Department, and a volunteer from the Western Pennsylvania School for Blind Children staff.

Each member of the residential staff met with a member of the instructional staff daily at 9:00 A.M. and from 3:00 P.M to 3:30 P.M. to share information about their particular child and to exchange self-care charts and toileting records.

The residential staff provided a nurturant and consistent environment for the children. The children seemed to respond favorably to the use of positive reinforcement techniques. Each staff member chose to work with the same child throughout the project and was encouraged with each small gain demonstrated by the child.

Each staff member wrote a weekly evaluation report to summarize the objectives for his child and to note specific outcomes. The evaluations revealed the children's adjustment to the new environment and their improved performance in the areas of self-care skills, communication, and motor skills.

The case workers from the Bureau of Visually and Physically Handicapped were involved in the actual work with individual children, attended staff meetings regarding the children and their problems, and observed the children during the in-service training sessions for the teachers.

This summer project provided the residential staff with learning opportunities in planning, caring for, and teaching multiply handicapped children who functioned at very low levels of development. Positive attitudes and expectations for the development of educational programs for such children were expressed by the staff members.

APPENDIX H

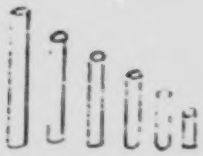
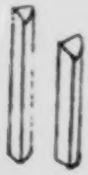
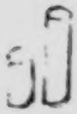
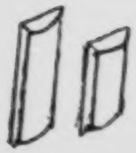
Teaching Materials for
Multiply Handicapped Children

Developed under a USOE Special Project:

"A Team Teaching Practicum for Teacher Preparation in Multiple Handicaps"

George Peabody College for Teachers
Nashville, Tennessee
August 31, 1971

Graduation Kit

Materials:

- 1" x 21" dowel rod
- 3/4" x 21" dowel rod
- 1/2" x 21" dowel rod
- 3/8" x 21" dowel rod
- 1/4" x 3/4" x 21" piece of wood
- 3/4" concave molding 21" long
- 1/2" quarter round molding 21" long
- 3/4" quarter round molding 21" long
- 3/4" x 1/2" x 21" base shoe
- 1" x 1-3/4" x 21" piece of wood
- 1/4" x 1-1/4" x 21" piece of wood
- 3/8" x 1" x 21" piece of wood
- 3/8" x 1/2" x 21" piece of wood
- 3/4" x 3/4" x 21" piece of wood
- 3/4" x 3/4" x 21" piece of wood cut to form a "V"

Non-toxic paint in a variety of colors (include the primary colors)

Instructions for Construction:

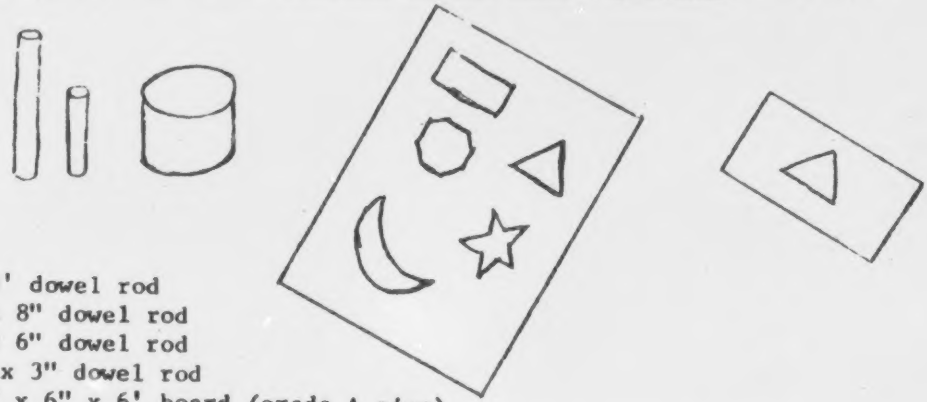
Cut each of the 21" sections into the following lengths: 1", 2", 3", 4", 5", 6". Paint each length of wood the same color; for example paint all of the 1" dowels red and all of the 3/4" dowels blue.

Possible Uses:

Aids to teaching graduation, color, counting, shape, left to right progression, grasping and eye hand coordination.

Materials Developed for Increasing Visual Behavior

Barraga, N. Increased Visual Behavior in Low Vision Children, AFB, 1964.



Materials:

- 1" x 3' dowel rod
- 3/4" x 8" dowel rod
- 1/2" x 6" dowel rod
- 3/16" x 3" dowel rod
- One 1" x 6" x 6' board (grade A pine) will actually measure 3/4" x 5-1/2" x 6'
- scraps of 1/4" plywood
- 3/8" x 1' x 4' plywood
- oaktag (22-1/4" x 28") 20 pieces
- large file cards (8" x 5")
- a good variety of non-toxic poster paints
- non-toxic enamel (for wood) red, blue, yellow, green, orange, purple
- black magic marker
- Elmer's glue
- cover with clear plastic or other protective covering for durability
- sandpaper (one sheet of medium will do. If you have a sander cut to fit the sander.)

Instructions for construction:

Using the 1" dowel rod, cut eight pieces ranging in graduated heights from 4" to 1-1/2" (make each one approximately 3/8" shorter than the next). Paint this set blue. Using the 1" x 6" x 6' board, lay out and cut out five sizes of circles (four of each size) ranging in size from 3" to 1-3/8" in diameter. Glue circles of the same size together creating 3" high cylinders. (Follow direction on glue container. Use a vice or large "C" clamp to apply pressure. Place a scrap piece of wood between your finished object and the clamp or vice to avoid marring surface.) Sand when dry. Cut three more 3" cylinders from each of the 1", 1/2", and 3/16" dowels. Paint this set of eight cylinders yellow. The next set of cylinders ranges from 4" to 2-1/4" high and 4" to 3/4" in diameter. Two of the cylinders can be cut from 1" and 3/4" diameter dowels. For the others lay out six different sized circles on the rest of the 1 x 6 and - to facilitate building different heights - use the 1/4" scraps of plywood. (Ex.: two 2" diameter circles cut out of the 1 x 6 and one 2" diameter circle cut out of plywood will form a 1-3/4" high cylinder.) Glue and sand as described. Paint this set of eight cylinders.red.

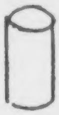
Using a table saw and its fence, cut the 3/8" plywood into strips 1" x 4'. Cut these strips into six of each of the following: 2", 2-3/4", 3-1/2", 4-1/4", 5-1/2", 6". Sort these pieces into six sets of six graduated sizes. Paint each set a different color, using the colors red, blue, yellow, green, orange, purple.

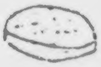
A clear plastic covering will protect charts and individual cards described in the handbook.

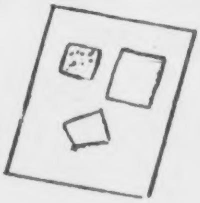
Possible uses:

Developing use of vision, counting, tactual discrimination, color, size, shape, motor manipulation.

A Tactual Program for Multiple Handicapped Children







Materials:

- black flannel
- sand paper
- art foam (red, green, blue)
- heavy cardboard
- 8 pieces of 11" x 11-1/2" braille paper
- glue
- three one-pint milk or orange juice cartons
- two 3-1/2" x 3-1/2" box lids (can be made with cardboard)
- plastic lids 4-1/2" diameter

Directions for construction:

Cut the tops off of the milk cartons forming open cubes. Cover each with a different material; sandpaper, red art foam, and black flannel.

Out of cardboard construct three cylinders with a diameter of 1-1/2" and a height of 3-1/2". Cover each with a different material: sandpaper, blue art foam, black flannel.

Construct two cylinders with a diameter of 3" and a height of 3/4". Cover each with a different material: black flannel, blue art foam.

Using the plastic lids or cardboard, make three 3/8" high x 4-1/2" diameter cylinders. Cover each with a different material: black flannel, red art foam, sandpaper.

Cover each of the two box lids with a different material: green art foam, sandpaper.

Cut out two 4" square pieces of cardboard, cover one with sandpaper and the other with red art foam.

Cut out three circles of cardboard each with a 4-1/2" diameter. Cover each with a different material: sandpaper, black flannel, blue art foam.

Cut two cardboard circles (3-1/2" diameter).Cover one with blue art foam, the other with black flannel.

Cut four cardboard circles (1-1/2" diameter). Cover one with blue art foam, one with black flannel, and two with sandpaper.

Cut two 3" squares and cover one with green art foam and the other with black flannel.

The following need not be backed with cardboard. Cut forty 1" x 2" pieces of red art foam. Cut forty 1" x 2" pieces of sandpaper. Cut forty 1" x 2" pieces of black flannel. Cut eight red art foam, eight sandpaper, and eight black flannel one inch diameter circles.

On one braille card glue two circles of different sizes, one of blue art foam, one of black flannel. On another card glue three circles (2 different sizes) of blue foam and black flannel.

Using another card glue a 3" square piece of sandpaper and two different sized circles of blue foam and black flannel.

On another card glue three equal sized circles cut from different material: two from sandpaper, one from blue foam.

Three squares (of two sizes) should be glued to another card, one of green foam, one of sandpaper, one of black flannel.

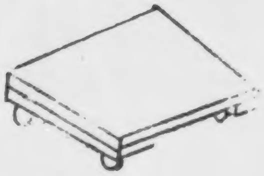
Out of black flannel, cut two different sized circles and one 3" square. Glue to a card.

Cut two squares of different sizes, out of green foam and glue to a card. Finally cut three circles, all of different sizes, from sandpaper and red foam and glue to the last card.

Possible uses:

Aids in developing tactual discrimination skills through matching like surfaces, shapes, colors, etc.

Motor Board

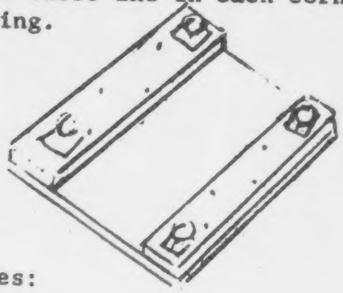


Materials:

- one piece of 20" x 20" x 3/4" plywood
- two pieces of 1" x 4" x 20" pine
- 4 casters
- screws and nails
- non-toxic paint (or a 20" x 20" piece of carpeting)

Directions for construction:

On opposite edges of 20" x 20" plywood, fasten a 1" x 4" x 20" piece of pine. On these and in each corner, fasten a caster. Paint or cover with carpeting.

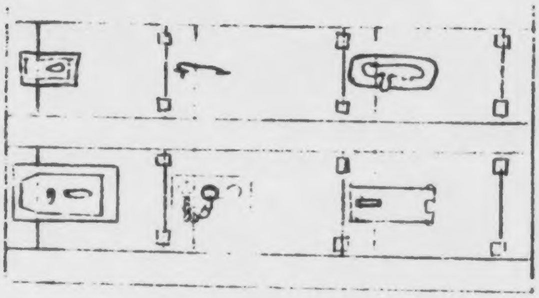


bottom view

Possible Uses:

To develop body image and position in space. To aid in strengthening and training leg and arm muscles. A general aid to mobility

Latchboard



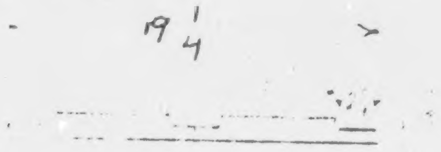
Materials:

- one 19-1/4" x 29" piece of 1/8" hardboard
- one seven foot 1" x 3" pine
- one eight foot 1" x 3" pine
- one four foot 1" x 6" pine
- Twelve heavy 1" butt hinges
- one cabinet latch
- one rim latch
- one sliding dead bolt
- one padlock latch
- one screen door hook
- one safety chain latch
- two small cabinet knobs
- non-toxic paint
- white glue, 3/4" tacks, scraps of fabric

Instructions for construction:

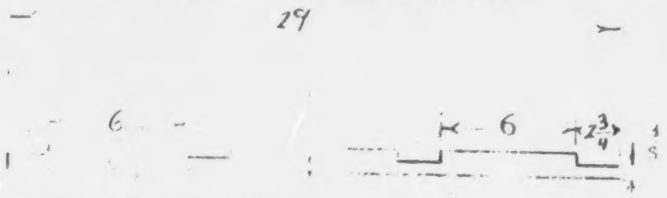
A table saw is a must.

Cut the seven foot 1" x 3" into four pieces 19-1/4" long. Cut the eight foot 1" x 3" into three pieces 29" long. Notch the short pieces as shown below.



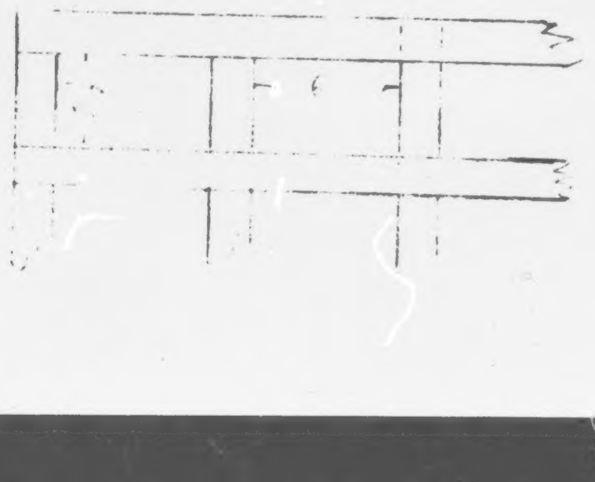
all notches are 3/8" deep and 2-3/4" wide

Notch the long pieces as shown below:



all notches are 3/8" deep and 2-3/4" wide

Glue together so that you will have a 19-1/4" x 29" x 3/4" grid with six 5-1/2" x 6" openings.

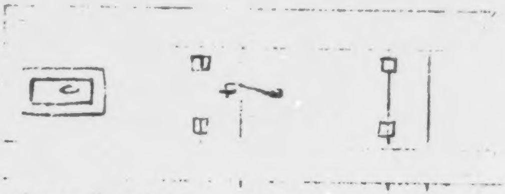


(When gluing, use "C" clamps to apply pressure at each joint. To avoid marking wood, use scraps of wood between clamp and finished wood.)

Tack hardboard on to one side of grid as a back.

Cut and shave the 1" x 6" into six 5-1/2" x 6" sections. These are doors. If they do not fit easily into your grid openings, trim them down until they do.

Hinge each door along the 5-1/2" edge with two hinges so that they all open in the same direction. Hinge 1/4" in from the corner.



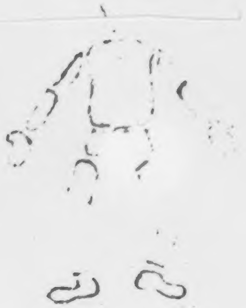
Fasten the various latches. It is suggested that you use the two small cabinet knobs with the safety chain latch and the sliding dead bolt to facilitate opening the door. Glue decorative pieces of fabrics to hardboard backing so that they will be exposed when the doors are opened. (Do not use thick fabrics)

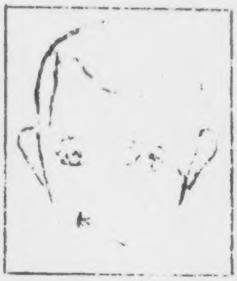
Paint.

Possible Uses:

This can be used as an aid to teaching the operation of various door fasteners, coordination and color identification if fabrics and paint are chosen with this in mind.

Body Image Puzzles





Materials:

- two pieces of 3' x 4' x 3/8" plywood
- two pieces of 12" x 14" x 3/8" plywood
- non-toxic paints
- Play Doh
- fiber glass and epoxy resin
- glue

Instructions for construction:

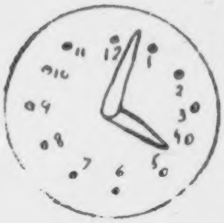
For the first puzzle, a child-sized representation of a dressed child, draw the design lengthwise on a piece of 3' x 4' x 3/8" plywood. Divide it into the following parts: head, chest, two arms, two hands, hips, two legs, and two feet. Cut these parts out. Glue the puzzle frame to the other piece of 3' x 4' x 3/8" plywood. Paint puzzle frame and pieces as desired.

The second puzzle is a detailed face with built up features. On one piece of 12" x 14" x 3/8" plywood draw a face and divide it into the following parts: face, two ears, two eyebrows, two eyes, nose, mouth. Cut these parts out. With these flat pieces of the puzzle as a base, mold on features with Play Doh. Let dry for three days then cover each with fiber glass and epoxy resin. After the fiber glass is dry sand and paint. Glue this puzzle frame to the other piece of 12" x 14" x 3/8" plywood and paint.

For the child with cerebral palsy, tabs of masking tape can be added to each piece making it easier to grasp and pick up the pieces.

Possible Uses: Good aids in the development of body image.

Clock



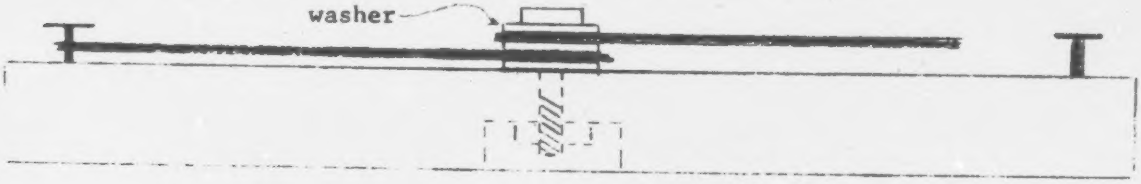
Materials:

- one piece of 1' x 1' x 1 of pine, or one piece of 1' x 1' x 1/2" plywood
- twelve 1" nails with large flat head
- a 2" x 6" strip of heavy tin
- one 1" bolt
- three 1/2" washers for bolt
- one nut to fit bolt
- paint (non-toxic)

Instructions for construction: (pine)

Draw an 11" or 11-1/2" circle on the board. Cut this circle out. Paint on a background color for the face of the clock. Drill a hole in the center, big enough for the bolt. From the back, drill out (enlarge) to a 1/2" width approximately halfway through the board. (Counter sink it.)

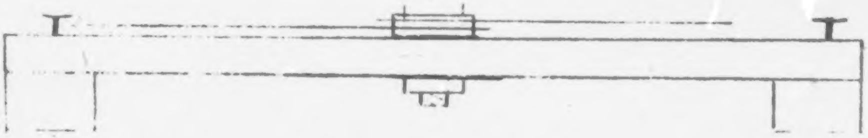
Design and cut out a 4-1/2" minute hand and a 3" hour hand - make them taper slightly to one end. Drill a hole in the larger end of each, large enough for the bolt to fit through. Attach hands to clock.



Lay out and paint numbers on face of clock. Cover the numbers several times with Elmer's glue for a raised surface. Place a nail near each number so that the minute hand just touches it. Drive the head of the nail to within 1/4" of the board. Braille the number and attach to the nail heads. As the minute hand moves around the clock, it must be lifted over each nail. Rubber bands can be stretched between each two successive numbers. These can be lifted off to show the child the passage of time.

Instructions for construction: (plywood)

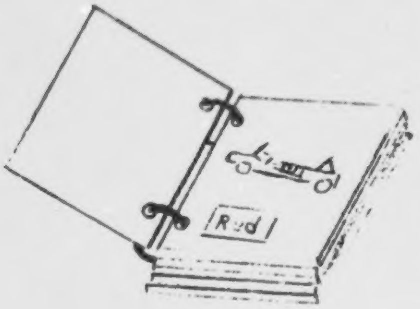
Same as above but it is difficult to countersink the nut and bolt into plywood. Therefore allow it to protrude. Using scraps cut three or four 1" x 1" x 1/2" pieces of plywood. Nail these on to back of clock to act as legs. This will give the clock stability and keep the bolt from scratching table, etc.



Possible Uses:

Can be used to teach time, number sequence, concept of passage of time, and number discrimination.

Books for Language Development



Materials:

- poster board
- manila construction paper
- manila braille paper
- hole puncher
- rubber cement
- magic marker
- two 1" diameter loose leaf rings
- Velcro
- paper cutter
- pictures (drawn or otherwise)

Instructions for construction:

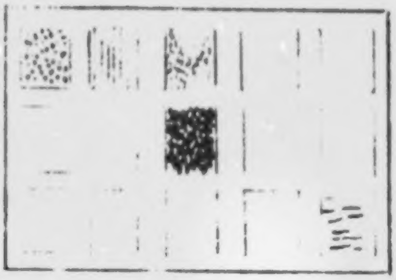
Cut poster board, manila construction paper, and manila braille paper into 8-1/4" x 9-1/4" sections. Glue braille paper to one side of poster board, construction paper to the other. After this has dried, cut with paper cutter to the finished page size of 8" x 9".

Select the concept to be presented and draw, cut out, or take photographs of this concept. Glue these to the braille paper covered side of the page. Cut two strips of braille paper large enough for whatever word is being used. Use the magic marker to print the word on the braille paper. Braille the word above it. Glue strips of Velcro (hooked side) vertically to another piece of braille paper of the same size. Glue these two pieces together with the word showing on one side and the Velcro on the other. Glue two strips of (fuzzy side) Velcro, the same length as the word strip, to the page with the picture. The word can now be removed or replaced by the teacher of the child. Punch holes on left side of page about 1-1/2" from the top and 1-1/4" from the bottom of the page. Bind the pages with the loose leaf rings.

Possible uses:

Identification of picture, naming objects (additional names or strips can be interchanged to teach concept, i.e., Johnny, boy, sitting, etc., all referring to one picture).

Texture Boards



Materials:
- different textures
- large pieces of board (1/4" plywood, composition board, etc.)
- rubber cement (or any other heavy glue)
- poster board

Instructions for construction:

Several boards can easily be made. If they are 1' x 1-1/2' a child can easily handle the board. Two or three boards can be devoted to a given category of texture. One board might be composed of a variety of textures to make a compare-and-contrast board.

Cut squares of poster board to the desired sample size. Bind the edges by painting them with glue. Let these dry. Glue your texture sample to the poster board and glue this in turn to the 1' x 1-1/2' board. The poster board gives the samples added depth and interest.

One board could be devoted to the various grades of aluminum oxide paper. (This product is more durable than regular sand paper, although sandpaper can be used). Add a few samples of emery cloth.

Suggestions for other samples are: sheet rubber, cork, sponge, rugs, and various fabrics.

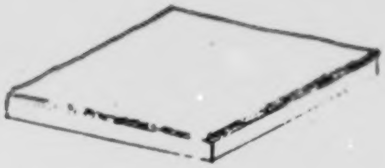
Various colors of felt can be used to teach colors.

By making duplicate samples, but not gluing them to a large board, the child can match and compare textures and colors.

Possible uses:

Tactile (textural) sensitivity, sorting skills, and color identification can be taught with the aid of this device.

Texture Matching Blocks



Materials:

molding (casing), or sections of 1/4" plywood
enough of each texture to cover two blocks of wood
rubber cement (or any other heavy glue)

Instructions for construction:

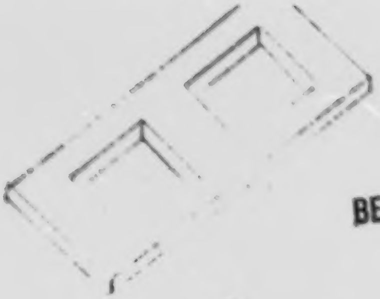
Using 3-1/8" (or so) molding (which is smoother and more decorative than plywood) cut 4-1/4" lengths. With rubber cement, glue a given texture to the unfinished side of the molding. Make two blocks for each texture.

Suggested textures: suede, leather, imitation zebra fur, corduroy, finished leather, silk, velvet, textured leather or vinyl, patterned fabric, closely knit rug, and shag rug, etc.

Possible uses:

Tactile sensitivity, matching, color identification, and sorting skills.

Plexiglass Puzzles



Materials:

- 1/2" thick clear plexiglass, the largest size needed is 20" x 20" x 1/2" (2 of these)
  - one 6" x 18" x 1/2" plexiglass
  - one 6" x 12" x 1/2" plexiglass
- sheet metal
- Velcro

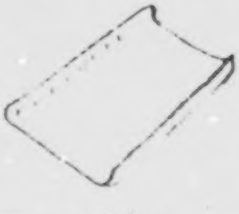
Instructions for construction:

Plexiglass can be cut, with a fine tooth saw, buffed (with various grades of buffers as you do when working with wood; however major scratches are difficult to remove) and drilled.

This set of materials consists of two 20" x 20" x 1/2" sheets on which three evenly spaced rows of three 3" x 3" sections are cut out and used as pieces to the puzzle.

One 6" x 18" x 1/2" piece has three 3" x 3" sections cut out; again, these pieces are used as pieces to the puzzle. Finally, there is a piece 6" x 12" x 1/2" which has two evenly spaced 3" x 3" sections cut out.

Sheet metal is used to act as a backing to the puzzles. These are not fastened to the plexiglass, rather they act as trays. One set of opposite ends are bent 90 degrees up to form a lip which helps to keep the puzzle from sliding off of the tray. The other edges are flat. All corners are rounded.



The bending is best done by a machine.

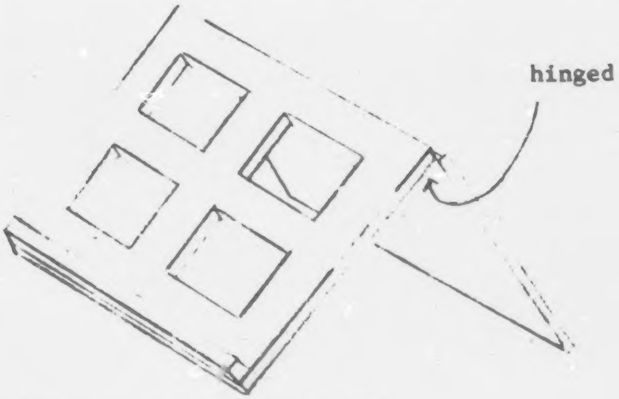
Nine extra puzzle pieces (3" squares) are included.

Possible uses:

Attach small pictures to the back side of Velcro. Glue the soft side of the Velcro to the metal tray. Attach the soft side of the Velcro to the top of the plastic squares. Glue duplicate pictures to the back side..

Match the squares of plastics to the appropriate square in the tray. The use of Velcro allows different pictures to be used in the same frame. One set of pictures can depict transportation, one shapes, one colors, and another foods.

Puzzle Frames



Materials:
- three 12" x 12" pieces of 1/2" plywood
- three 12" x 12" pieces of 1/4" plywood
- four 18" x 18" pieces of 1/2" plywood
- four 18" x 18" pieces of 1/4" plywood
- 14 one inch hinges
- 5-1/2' of 1/2" x 3/4" base shoe (a type of molding)
- 6-1/2' of 1/2" x 3/4" stripping
- 1/2" or 5/8" brads
- varnish

Instructions for construction:

Evenly space, in two rows, and cut ou four 3" squares in each of the 12" x 12" x 1/4" pieces of plywood. Evenly space, in three rows, and cut out nine 3" squares in each of the 18" x 18" x 1/4" pieces of plywood.

Hinge a 1/4" and a 1/2" piece of plywood of same size together with two hinges. This gives you three 12" square hinged units and four 18" square hinged units.

On three of the 18" units, tack on an 18" strip of molding along the hinged edge (3/4" face down with 1/2" face in line with hinged edge). On the other 18" unit, tack on an 18" piece of stripping (3/4" face down) along hinged edge.

On one of the 12" units, tack on a piece of stripping (3/4" face down) along all four sides (using four 11-1/4" pieces).

Place a 12" piece of stripping (3/4" face down) along hinged edge of a second 12" unit.

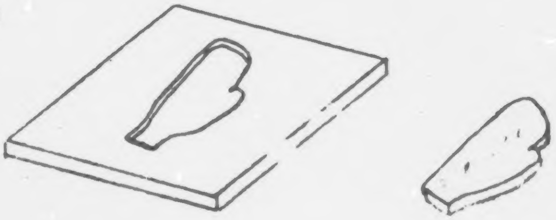
On the third 12" unit, place a 12" piece of molding as you did on larger units.

Varnish.

Possible uses:

Same as for plexiglass puzzles

Step and Touch Blocks

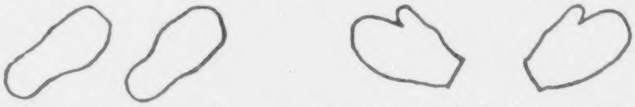


Materials:

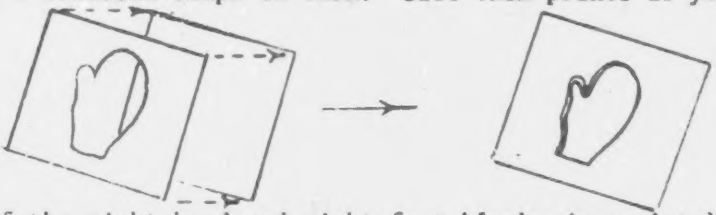
- 64 ten inch squares of 1/4" plywood
- glue and tacks
- red and blue non-tosic paint
- a 1' x 2' section of one inch thick foam cushioning

Instructions for construction:

Design simple patterns for a right and left hand, and a right and left foot.



Keep them moderate in size so that there will be ample margin left when the shapes are cut out of the plywood squares. Trace and cut out eight of each of the four patterns. This will leave 32 uncut plywood squares. These squares will be tacked and glued onto the cut out frames to make a block with a recessed shape in them. Call them prints if you like.



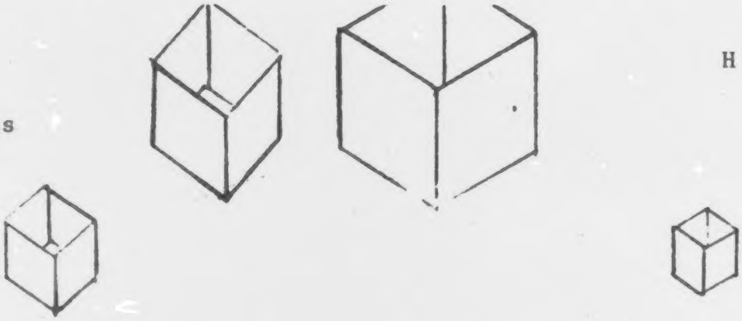
Paint each of the right hand and right foot blocks (or prints) red. Paint the others blue.

Using your patterns again, trace and cut out of the foam cushioning making an equal number of pieces to fit into your prints, of each.

Possible uses:

To aid in the teaching of the concepts: soft and hard, and left and right. Can be spaced on the floor for walking.

Nesting Boxes

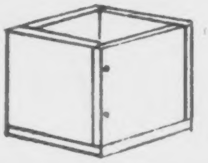


Materials:

- 1/4" plywood
- non-toxic enamel in red, brown, blue, yellow, green, orange
- contact cement or standard white glue
- 1/2" to 5/8" brads

Instructions for construction:

Build six boxes ranging in size from a 1-1/4" cube to a 6-1/4" cube with a 1" interval between boxes (1-1/4", 2-1/4", 3-1/4", 4-1/4", 5-1/4" and 6-1/4"). Each box is constructed in a similar manner. For example, the 3-1/4" box is made with four 3" square sections and one 3-1/4" square section, which is the top. The bottom is open.

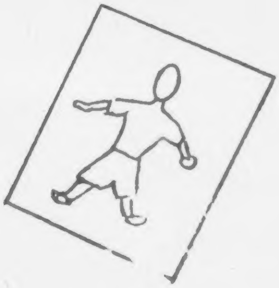


The two smaller boxes should receive only one brad per side. Use two brads per side on the others. Glue all edges.

Possible uses:

These can be used to teach size, color, visual memory and visual memory span. They are also useful in teaching concepts of place, "in", "on", "up", etc. and size.

Wooden Puzzle of a Boy



Materials:
- two 8-1/2" x 11-1/2", 1/4" pieces of plywood
- paint (as many of the primary colors as you can incorporate into the picture)
- glue

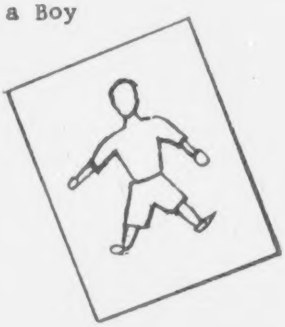
Instructions for construction:

On one of the pieces of plywood, draw the outline of a boy dressed in shorts and a short sleeved shirt. Cut out the legs below the shorts and the arms up to the sleeves. Cut the head out also. Glue the puzzle frame to the uncut piece of plywood. Paint all pieces of puzzle as well as puzzle frame.

Possible uses:

This can be used to help teach the primary colors. It is also helpful in teaching gross body concepts (visual-motor coordination).

Paper and Felt Puzzle of a Boy



Materials:
- paste
- paper
- felt

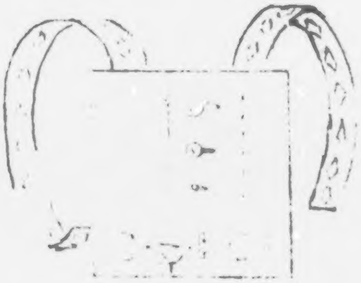
Instructions for construction:

Draw an outline of a boy on a standard sized piece of paper. Out of various colors of felt cut out a shirt, shorts, arms and legs, and a head. Let the child paste the pieces in place.

Possible uses:

This is an aid in teaching colors, the names of clothes, and developing gross body concepts.

Self-care Fasteners



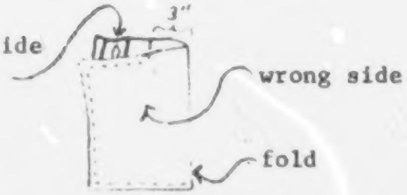
Materials:

a soft pliable cloth for the body of the vest 28" x 14"; cut into 2 pieces: 16" x 14" and 12" x 14"
one 10" separating zipper
three buttons of graduated sizes (e.g., 1/2", 3/4", 1-1/2")
one snap
one trouser hook and eye
1-2/3 yards of heavy (it will be used as straps) 2" decorative trim, cut into 3 pieces: two=24-1/2" and one=11"
one decorative belt buckle consisting of buckle and 5" strap
8" seam binding of 1/2" bias tape

Instructions for construction:

Left side of vest:

Using a 16" x 14" piece of material, fold in half, right sides together, to form a 14" x 8" piece. Holding this piece with open edge to the left, insert one 24-1/2" piece of decorative trim between the finished sides, one inch from open edge, so that the trim extends downward with the decorative side toward the sewer. Sew together on three open edges (1/4" seam allowance) leaving a three inch opening for reversing the material, and being sure that the trim is anchored at one end only. Reverse material and top stitch along all four edges.



Right side of vest:

Using a 12" x 14" piece of material, follow instructions for left side forming a 14" x 6" piece, but holding the open edge to the right instead of to the left.

Attach separating zipper to fold edge of right side of vest and one edge of 11" piece of decorative trim according to instructions on package. The zipper should be centered on the vest, two inches from top and bottom edges.

Bind both ends of 11" piece of trim and unattached ends of each 24-1/2" piece with bias tape. Sew the 11" piece of trim lengthwise to the back of left side of vest so the top and bottom edges of vest meet evenly.

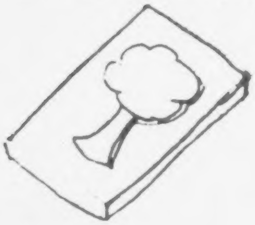
On right side of vest, sew the three buttons so that the largest is 3" from top edge and the smallest is 7" from the top edge, with the medium button between. Make corresponding buttonholes on left side of vest.

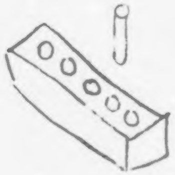
On back side of left piece, 4" from bottom edge and 1/2" from fold, attach trouser hook securely. Attach the eye to the front of the right side of vest. On front of left size, 1/4" from bottom edge, attach buckle half of belt buckle in such a way that the buckle extends to the fold edge. Attach the strap portion to the front of right side of vest. On the front of right side of vest, 3/4" from top edge and in line with buttons attach male half of snap. Attach female half on back on left side of vest. Two soft pieces of Velcro should be attached to wrong side of each 24-1/2" piece of trim, approximately 1-1/2" and 5" from bound ends. One receiving end of Velcro should be placed on back sides of vest for each strap, 3-1/2" from bottom edge and 1/2" from outside edge. Velcro may be placed on back of left side and front of right side, one inch from bottom and one inch from center edges.

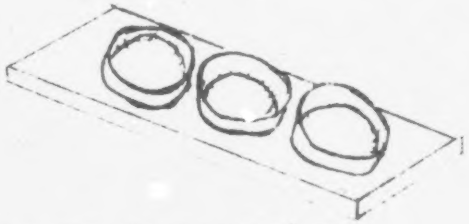
Possible uses:

Aid to teaching dressing skills.

The Use of Clay for Constructing Low Cost Instructional Materials







Materials:
- clay (Marblex, produced by the Amco Company, is suggested as it is non-toxic and needs no firing)
- cloth or cardboard
- paint (Liquitex acrylics are suggested)
- glue

Suggestions for construction of puzzles:

Roll out the clay to the desired size and shape (no more than 8" x 8" x 1/4"). Cut along the outer edges of your design and remove the piece(s) leaving the puzzle frame. The puzzle frame should be allowed to dry. If the puzzle is not larger than eight inches square or 1/4" thick, cracking due to drying will not be significant. Backing for the puzzles is made out of cloth or cardboard which is glued to the back of the puzzle frame. As the puzzle frame is dry and has reached its final size through shrinking, the puzzle pieces should now be fashioned. When dry, paint. Through practice, better puzzles will be produced.

Suggestions for construction of pegboards:

Here the clay should be about 3/4" thick and one or two inches wide. Make it as long as practical. The holes can be made with a large pencil or dowel. Pegs can be made of wood or clay.

Suggestion: As clay items are fragile, it is best to use them in directed educational environments.

Possible uses:

Aids in motor coordination, visual motor perception, identification of basic shapes, color and textural training, and right-left-middle concept.

Suggestions for construction of sorting board:

Materials:
- one 1" x 4" x 14" board (grade B pine will do)
- Velcro
- three eluminum margarine containers (or any other container)

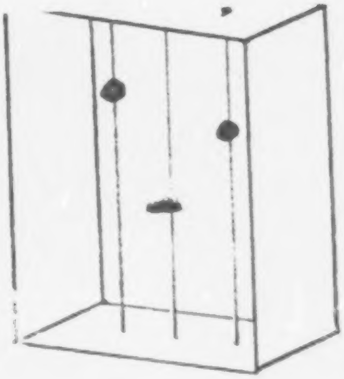
Instructions for construction:

Evenly space and glue three 1-1/2" square pads of Velcro to the board. Glue corresponding pieces of Velcro on the bottom of each of the three containers.

Possible uses:

Holds containers stationary for color and texture sorting.

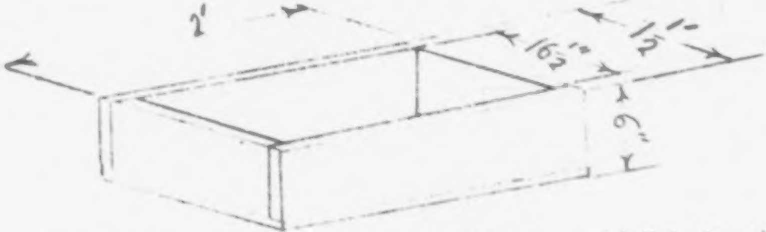
The Up and Down Box



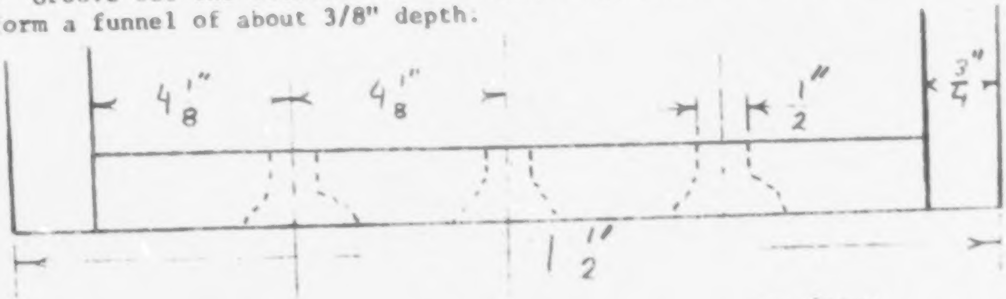
Materials:
- one 1-1/2' x 2' x 3/8" section of plywood
- one 1" x 6" x 8' grade B pine board (has knots but is less expensive than clear)
- three 1/2" x 2' sections of galvanized pipe with ends slightly threaded
- 6 yards of 3/4" Velcro (optional)
- 1-1/2" nails
- white non-toxic paint
- insulated wire and leather thongs
- 3 small magnets
- 3 plastic toys (bright colors)
- glue

Instructions for construction:

Build a box measuring 1-1/2' x 2'. The depth will be about 6". (The 3/8" plywood will make up for that which was lost when your 1" x 6" was finished at the lumber mill.)



On each of the 1-1/2' ends of the box drill three 1/2" holes 4-1/8" on center. Groove out the outside end of each of the holes on one end of the box to form a funnel of about 3/8" depth.

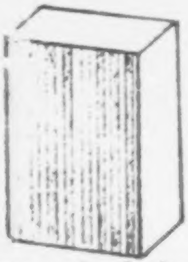


not drawn
to scale

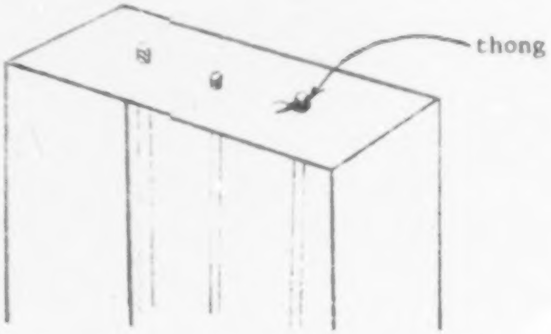
Paint the box.

On each of the plastic toys, but a hole which is a little larger than 1/2". These holes will allow the toys to be slipped onto the pipes. Glue a magnet on the inside of each toy so that it will rub against the pipes.

Suggestion: Glue 2' strips of Velcro on the back of the box so that materials can be fastened to teach the concept of up and down in a horizontal position. It can also be used as a display board.



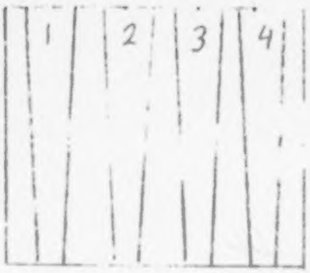
Slip a pipe through a hole in one end of the box, slide on a toy and push the pipe into the corresponding hole in the other end of the box. Tightly wind a piece of insulated wire around the end of the pipe sticking through the grooved out hole. This must be on the very end of the pipe. Push this end as far back into the groove as possible. If the procedure does not allow at least 1/4" of pipe to appear above the top of the box, groove out the other hole until it does. Around this end tie a thong. This then will hold the pipe in place. Do the same for the other pipes.



Possible uses:

Aid to teaching up-down concept in both a vertical and a horizontal position. Also it can be used in teaching right and left, and relative height, highest and lowest. Can also be used for visual motor coordination.

Color Board



Materials:

various textures
non-toxic enamel paints: red, blue, green, yellow, white
8 spring loaded clothespins
1' x 1' x 1/4" piece of plywood
glue

Instructions for construction:

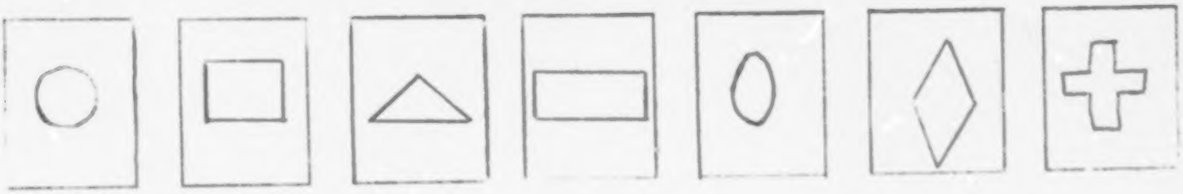
Paint the piece of plywood white on both sides. Evenly space and paint four tapering columns, each should be painted a different color (red, blue, green or yellow). From left to right, near the wider end, number each column in white. Paint four clothespins to match each of the columns.

On the other side glue four 12" x 2" strips of different textures. Glue small samples of these textures to four clothespins.

Possible uses:

number, color, and texture identification and matching

Shapes and Forms



Materials:

- 7" squares of plywood (¼"), two for each figure
- Power saw
- Sandpaper
- Small knobs or spools for each square of plywood (optional)
- Non-toxic paint (optional)

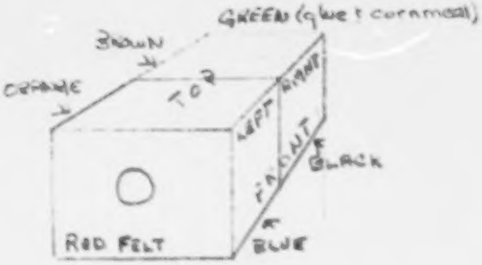
Instructions for Construction:

Cut 7 inch squares of plywood (¼"); make at least two of each. Trace desired shapes onto squares of wood. Use power saw to cut out shapes. Sand both the cut out shapes and the form boards. If needed, put small knobs or spools on the cut out shapes so they can be more easliy manipulated. If desired, paint each form board.

Possible Uses:

Developing recognition and differentiation between shapes and forms.

Concept Box



Materials:
- Card board box
- Textures
- Corn Meal
- Paste
- Green enamel
- Felt Strips (red, green, blue, black, orange, and brown)
- One large green bean bag
- One small red bean bag
- Three shapes (square, circle, triangle)

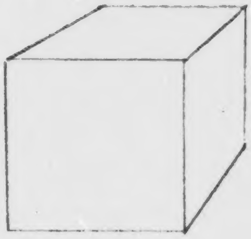
Instructions for Constructions:

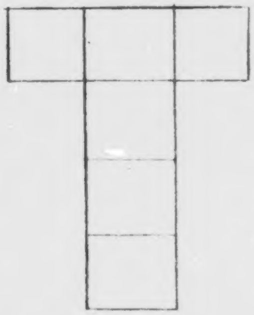
Card board box covered with squares of felt. Ends of box are different colors and different textures. The left side is red and "fuzzy", (red felt), and the right side is green and rough (mixture of paste and corn meal spread on surface then painted with green enamel). Each end has a round hole cut in it so the child can reach into the box for a reward or to respond to some request. The words "left", "right", "top", "front" cut from felt are glued in the appropriate places on the box. These words add interest and can also serve to familarize the child with several words. Two bean bags (large green one and a small red one) are included with the box for use with size discrimination aid for use during shape discrimination exercises.

Possible Uses:

Teaching left and right discrimination, color discrimination, size discrimination, shape discrimination, and the concept "into".

Foam Rubber Texture Blocks





Materials:

Strip of foam rubber 3" thick
Enough of each texture to cover 2 blocks of foam
Needle and thread

Suggested Textures: suede, leather, velvet, rough knit, corduroy, felt, nylon, silk, rubbed wool, textured vinyl, imitation fur, deep nag rug

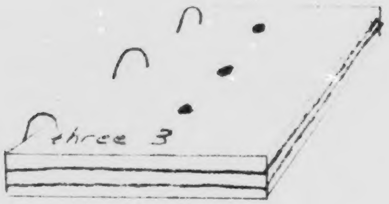
Instructions for Construction:

Using a strip of foam 3" thick, cut out cubes 3"x3"x3". Cut out two pieces of each material in the pattern illustrated. Pin the material on each blcok and sew the seams together with an overcasting stitch. Make two blocks of each texture.

Possible Uses:

Aids to teaching tactile sensitivity, grasping and releasing skills, color identification, matching, and sorting.

Number Concept Books



Materials:

25 Pieces of heavy green cardboard approximately 8"x10"
25 Pieces of sturdy off-white paper approximately 8"x10"
5 Types of any household items that can be seen and felt (15 of each type)
10 Ringers of medium size
1 Bottle of rubber cement glue

Instructions for Construction:

Cut the sturdy off-white paper to the dimensions of the cardboard and glue them together.

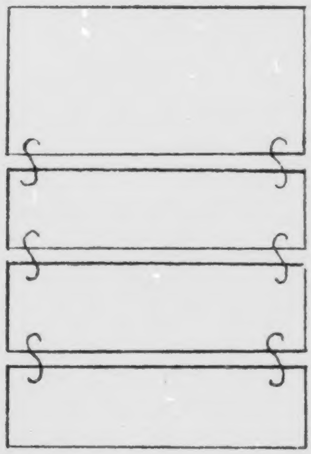
Glue each of the household items to each cardboard to represent numbers from 1-5. One object to represent one, two objects to represent two, etc. The numerical and printed name of the numbers are then placed at the bottom of each board.

Household items used: small red wooden circles taken from an old game; hairpins; buttons (dark colors); beans; small bows made from yarn.

Possible Uses:

Teaching concepts to children with or without a visual impairmant as well as other handicapped children who are able to grasp the concepts of numbers. With handicapped or "normal" seeing children, it can be used to teach reading, writing, and spelling of numbers.

Hanging Chart



Materials:
- 8"x15" heavy paper for question cards
- 4"x15" heavy paper for answer cards
- S-shaped hooks
- Pictures to represent signs used

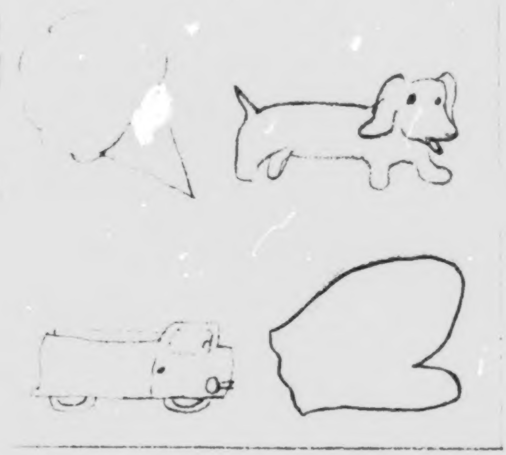
Instructions for Construction:

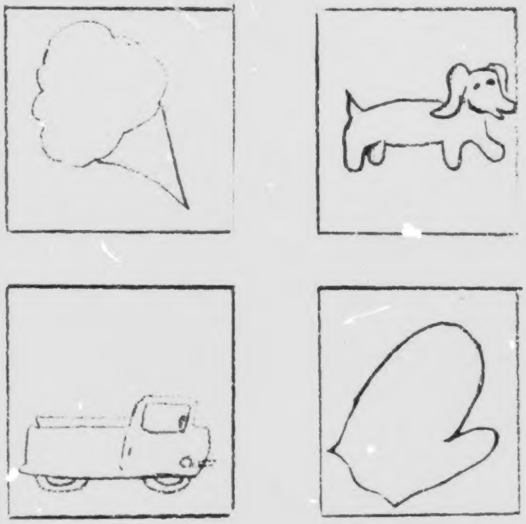
Illustrate a question on a sheet of 8"x15" paper. Then construct a set of answer cards (each card is 4"x15") for each question by showing a picture depicting the answer, the sign, and the written word. The questions used were "Who" and "How many".

Possible Uses:

To teach a child to learn to count and learn names while responding to a question.

Picture Matching Boards





Materials:

- One piece of plywood 16"x16"x1/2"
- Four pieces of plywood 8"x8"x1/2"
- Non-toxic paint
- Sandpaper
- 1" paintbrush
- Deft (or Royal Coat) decoupage finish (spray or liquid)
- Lacquer thinner
- Four pairs of large colorful pictures
  The two pictures in each pair should be identical and should be familiar to the child. Paper for decoupage must be heavy; therefore pictures from magazines may not be used. Pictures from alphabet books, such as the Rand McNally Giant ABC Book are excellent.
- Felt to cover the back of each board
- Glue

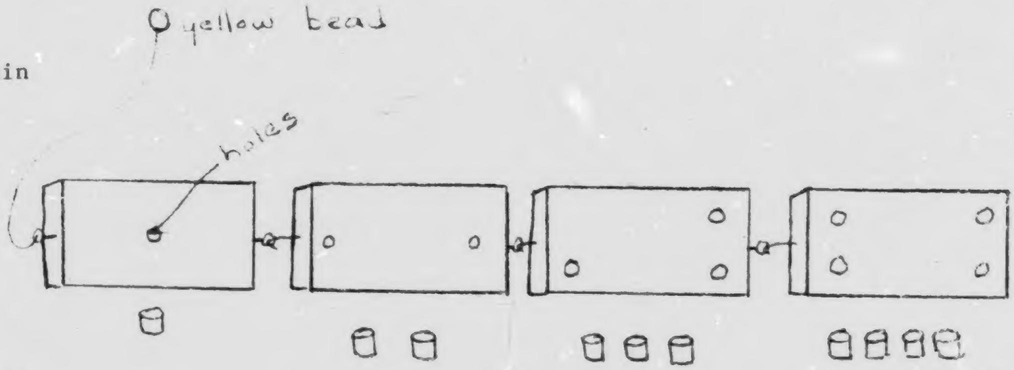
Instructions for Construction:

Sand plywood until it is smooth. Cover with two coats of paint. Glue one picture from each pair onto the large board; corresponding pictures are glued onto the smaller boards. Make sure that the picture edges are well glued. Cover the entire surface with twenty to twenty-five coats of decoupage finish. After the application of approximately six coats, it may be necessary to sant the boards once again. See the instructions on the decoupage finish container to determine the length of time required for each coat to dry. When a sufficient amount of decoupage finish has been applied (and has dried completely), a piece of felt may be glued to the back of each board so that it covers the entire surface.

Possible Uses:

This material may be used for vocabulary development, matching, exercises and concept development.

Toy Train



Materials:

Pine 2"x4" - 16" long
½x25" dowel rod
Wooden bead
4" rope
4 eye screws
3 hook screws
Sandpaper
Non-toxic paint
Drill

Instructions for Construction:

Cut the 2"x4" into 4 equal pieces measuring 4" a piece.

Cut the dowel rod into 10 pieces measuring 2½" each.

Drill holes in blocks. Drill on hole in block #1, 2 holes in block #2, 3 holes in block #3 and 4 holes in block #4.

Sand the holes and the pegs so that the pegs fit easily and can be removed easily from the holes.

Paint the blocks with non-toxic paint.

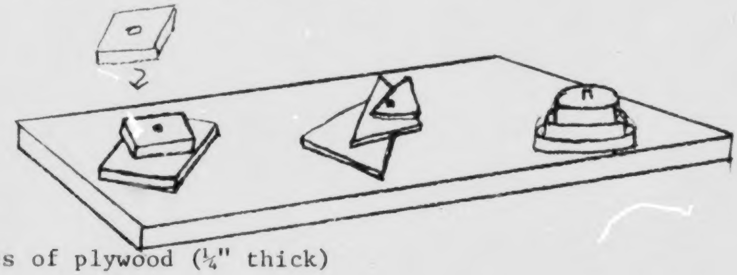
Insert eye and hook screws so as to connect blocks in order 1, 2, 3, 4.

Insert an eye screw of front of no. 1 block. Attach rope to this. Attach wooden bead to end of rope.

Possible Uses:

Developing use of vision, motor manipulation, eye hand coordination. Helpful in teaching concept of "in" and "out". Pulley toy, #3 block, could be a car with driver and 2 passengers.

Materials for Developing Size, Shape and Color Concept



Materials:

Nine 5" squares of plywood (¼" thick)
Power saw
Sandpaper
Non-toxic paint (red, blue, and yellow)

Instructions for construction:

Trace a square on three pieces of plywood, a circle on three, and a triangle on three. Using the power saw, cut out these shapes and sand them. Paint each of the three shapes a different color.

Possible Uses;

Identification of size, color, and shape. Sorting by size, shape and color. Concept of left, right, middle, top, bottom, between, on, off, big, little. Gross eye-hand coordination--placing object on peg. Counting 1 through 3 according to size, shape, and color. Counting 1 through 9.

APPENDIX I

DEVELOPMENT AND FIELD TESTING OF AN ASSESSMENT INSTRUMENT TO ASCERTAIN THE AUDITORY ACUITY OF DEAF-BLIND, MULTIPLY HANDICAPPED CHILDREN.

Research Grant Proposal

June, 1972

Gary Dean Yarnall, Ed.S.
Doctoral Student
Peabody College

ABSTRACT

Title: Development and Field Testing of an Assessment Instrument to Ascertain the Auditory Acuity of Deaf-Blind, Multiply Handicapped Children

Principal Investigator: Gary Dean Yarnall, Ed.S.

Project Director: Verna Hart, Ed.D.

Contracting Agency: George Peabody College, Nashville, Tennessee

Federal Funds Requested: $8,101.32

Dates: Beginning: July 1, 1972 Ending: August 30, 1973

The purpose of this study is to investigate the feasibility of operant audiometry as applied to deaf-blind, multiply handicapped children. Electronic programming equipment, testing techniques and a response box apparatus will be designed and built in an effort to develop an inclusive program to accommodate the behavioral variability exhibited within difficult-to-test, deaf-blind children. An instrument will be developed to assess operant conditioning audiometry, and audiometric results will be obtained from this instrument, as well as conventional audiometry. The electronic instrument designed for this study has no counterpart in existence. Presently, workers in the field of deaf-blind, multiply handicapped are limited considerably in assessing the auditory levels and training skills of such children across the United States. Results will be statistically analyzed to determine the applicability, validity and reliability of operant audiometry with deaf-blind children. The educational approach selected to teach speech, language and/or concept development to this type of multi-impaired individual is very much contingent upon each child's hearing acuity. Therefore, goals of the study will be: (1) to construct and field test and "de-bug" a rather sophisticated electronic instrument for determining the auditory acuity of low-functioning multihandicapped children; and (2) to provide basic audiometric data that will assist others in selecting educational programs that successfully teach speech skills and general communication concepts to acoustically handicapped children.

INTRODUCTION

Statement of the Problem

A German measles (rubella) epidemic swept across the United States from 1963 to 1965. As a result of the epidemic, approximately 20,000 to 30,000 children were born whose mothers had contracted the German measles virus during pregnancy (U. S. Department of Health, Education, and Welfare, 1969). As a consequence of the infection, these "rubella syndrome children" were born with multi-disabilities, including auditory, visual, cardiac and intellectual impairments (Wagner, 1967). The degree of sensory impairments experienced by these afflicted children was varied, depending upon the period of gestation during which the pregnant mother was infected (Cooper, 1968). Some of the "rubella children" have exhibited mild sensory and intellectual defects while others have suffered profound hearing, visual and mental losses, with most of the victims falling somewhere between these two extremes. Hearing losses occurred in most of these children, often in conjunction with accompanying visual losses, therefore, they are commonly classified as "deaf-blind" or multiply handicapped children (Salmon and Rusalem, 1966). Due to these impairments, especially the hearing losses, many of the present school-age deaf-blind, multiply handicapped children, as expected, have not been able to develop adequate speech and language skills (Rusalem, et. al., 1966) and would be classified as non-verbal or verbally retarded children.

Frequent questions similar to the following arise concerning the lack of development ot speech and language in many multiply handicapped children: Is the child autistic, or otherwise mentally disturbed, and unable to communicate even though he has the auditory acuity to hear speech sounds? Is the child so severely retarded that the degree of hearing which he does possess is not adequate in and of itself to develop speech and language? Is the child non-verbal because he has a definite hearing loss that, regardless of his emotional stability and/or innate intelligence and/or physical conditions, the child cannot incidently develop speech and language skills? Normal hearing is required for normal speech and language development (Lloyd and Young, 1969).

Educators of non-verbal children must have an understanding as to why the children are non-verbal. Speech and language programs for such children should be developed dependent upon causation. Thus, it is imperative that educators concerned with the development of speech and language curriculum programs for deaf-blind, multiply handicapped children have reliable data concerning the auditory acuity of their non-verbal or verbally retarded pupils. The multi-handicapping problems of the deaf-blind children, coupled with frequent traits of behavioral immaturity and lack of language development, render such children unsuitable subjects for the traditional standard pure tone audiometric tests. The testing problems encountered with the rubella children exemplify the problems audiologists face with other multiply handicapped, difficult-to-test children. Fulton and Lloyd defined the "difficult-to-test" subjects as persons whose motor skills are not intact or whose linguistic skills are almost nonexistent (Fulton and Lloyd, 1969).

Any person who has seen or attempted to administer a traditional pure tone audiometric test to young normal subjects, and then observed or participated in attempting to control and objectively interpret the test behavior of deviant, difficult-to-test subjects will admit that conventional audiometric techniques are obviously not adequate or appropriate for the abnormal subjects. Deaf-blind, multiply handicapped children understandably exhibit difficult-to-test behaviors (Calvert, 1972; Donlon, 1970).

Most apparatus developed to determine the auditory acuity of lower functioning, difficult-to-test children are not accessible to the general public. Those that might be available are not suitable to accommodate the related visual, auditory and motor imperfections of most deaf-blind, multiply handicapped children.

Rationale for the Study

Flexible audiometric programs and apparatus able to accommodate the various visual, auditory and motor impairments of low functioning, difficult-to-test, deaf-blind, multiply handicapped children need to be designed and investigated. Such procedures and apparatus would solve many of the questions listed earlier. As the investigator reviewed evaluation files he found records on difficult-to-test children, similar to those being utilized in this study, that have previously had their audiograms interpreted by conventionally oriented audiologists as "non-testable" subjects. General audiologists do not have the special equipment or training in operant conditioning that will enable them to objectively test the auditory acuity of deaf-blind, multiply handicapped children. Attempts at testing these subjects by different audiologists often result in conflicting audiometric results. Conventional standard audiometry is not reliable with some deaf-blind, multiply handicapped children. Contrary to this "unacceptable" audiogram data analysis, the investigator of this study will attempt to establish (via a new instrument and procedure) that this type of severely handicapped child should be able to be conditioned to yield acceptable, objective and beneficial audiometric data.

The Problem. Are operant audiometric techniques more effective than traditional standard audiometric procedures in evaluating the auditory acuity of lower functioning, deaf-blind, multiply handicapped children? "Lower functioning" will be defined as those children functioning as intellectually retarded. This research study will be concerned with an operant audiometric technique as it compares to standard audiometric audiogram results.

The Hypothesis. Operant audiometric procedures will yield better audiogram results than traditional conventional audiometric techniques when applied to deaf-blind, multiply handicapped children.

REVIEW OF LITERATURE AND RELATED RESEARCH

Many studies using both standard and operant audiometric procedures have been conducted to determine the auditory acuity of mentally retarded subjects

(Anderson, 1965; Lloyd, 1965; Lloyd & Reid, 1965; Spradlin, 1965; Waldon, 1965; Schlanger & Gottsleben, 1956; Meyerson & Michael, 1960; Bricker, Bricker & Larsen, 1968; Fulton & Graham, 1964: Birch & Matthews, 1951; Lloyd & Melrose, 1966; Fulton, 1966; McCoy & Lloyd, 1967); related studies have focused on mentally ill subjects (McCoy & Plotkin, 1967; Yeck, 1967; Magaro, McCoy, Walton & Sussman, 1967; Sprinkle, Fitz-Hugh, Harden & Waldren, 1965; Lamb & Graham, 1963); likewise, similar studies have been directed toward infants and young children (Frisina, 1963, 1966; Myklebust, 1954; Geyer & Yankauer, 1957; Donnelly, 1965; Thorn, 1962; Goldstein, 1955). Of course, thousands and thousands of auditory acuity testing programs have been administered to normal samples of the population.

Various techniques and apparatus have been used to evaluate hearing abilities of normal and handicapped children, including standard pure tone audiometry, play audiometry, electro-encephalography, psychogalvanic skin response audiometry and, more recently, operant audiometry.

No studies were found in the literature that involved the utilization of standard or operant audiometry with subjects classified as "difficult-to-test, deaf-blind, multiply handicapped." Subjects involved in the above studies might have been multihandicapped, that is, possessed of more than one disability; but none of the studies was designed to lend itself to a controlled heterogeneous group of subjects having combinations of disabilities--which is the type of subjects to be incorporated within this study.

Fulton and Lloyd (1969) described four overlapping, yet distinct periods or phases of audiology that have transpired during the past 25 years with the retarded. These four phases, which can be cited as developmental background for audiology with difficult-to-test exceptional children, are:

Phase 1--a focus on the incidence of hearing loss among the retarded populations

Phase 2--a realization by investigators that standard pure tone techniques were not adequate, and the devising of new procedures, including operant audiometry

Phase 3--a period of stringent control over test variables; the approaching of clinical audiology, systematically seeking reliable and valid tests

Phase 4--a deep awareness of the various needs of the retarded and other difficult-to-test subjects, and a foremost concern for the development of improved methods of applying advanced electronic instrumentation and human engineering and behavioral principles to audiological procedures (Fulton & Lloyd, 1969).

Objectives

As a result of the above stated problem coupled with the paucity of data pertaining to testing the auditory acuity of multiply handicapped children, the following specific objectives have been developed for this research proposal:

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(1) to devise an apparatus and appropriate audiometric techniques that are applicable to testing the hearing of difficult-to-test, deaf-blind, multiply handicapped children.

Principles of operant conditioning and audiometry will be combined in the pursuit of this objective, following the belief that the principles of operant conditioning paired with audiometric procedures are appropriate and advantageous for creating acceptable techniques for the assessment of the auditory acuity of deaf-blind, multiply handicapped children.

(2) to determine the applicability, validity and reliability of operant audiometry with deaf-blind, multiply handicapped children: (a) by statistically comparing the operant audiogram results with previously tested normal and hearing handicapped children, (b) by testing and retesting deaf-blind subjects, and (c) by comparing the conventional and operant audiogram results derived from deaf-blind subjects.

PROCEDURES

Subjects

Four groups of subjects will be used in the study. Group I will be composed of 6 normal hearing young children ranging in age from six to 15 years. These subjects, selected from individuals that have demonstrated pure tone thresholds well within normal limits, will be used to test the validity of the operant device.

Group II will include 6 young hearing impaired children ranging in age from six to 13. Repeated pure tone thresholds have already been obtained with repeated testing over a period of time, indicating good test-retest reliability with these children. Group II was selected for the same reasons as Group I, to additionally test the validity of the operant conditioning audiometric procedures and apparatus.

Group III subjects, ranging in age from six to 16, will consist of 6 difficult-to-test retarded children who have never received an audiometric test before. They have been included for three purposes, to assess the relative performance of difficult-to-test subjects who have never been exposed to audiometric testing, to check for learning effects, and to validate the research design selected for Group IV subjects.

Group IV will be composed of 6 children diagnosed as "deaf-blind", ranging in age from four to 15. Group IV subjects, selected from the population of deaf-blind children presently schooled within the Southeast Regional Deaf-Blind Center, will be chosen to represent the auditory, visual, intellectual and behavioral variability usually found within an educational facility for deaf-blind children.

Design

Validity. The study will be carried out in four parts.

Part I will involve the testing of young children (Group I) who have had previously determined pure tone thresholds. Administering operant audiometry to this group will help to determine the validity of the apparatus and operant procedures with normal hearing children.

Part II will involve the testing of the Group II subjects (6 hearing impaired children). This will be an important step in preparation for testing the difficult-to-test, deaf-blind, multiply handicapped children.

The testing of Group III subjects with both conventional and operant audiometric procedures will comprise Part III of the study.

Part IV will involve the testing of 6 deaf-blind, multiply handicapped children (Group IV). As used throughout this study, the term "deaf-blind" refers to a child possessing both auditory and visual handicaps, the combination of which causes such severe communication and other developmental and educational problems that he cannot properly be accommodated in special education programs either for the hearing impaired or for the visually impaired child.

Reliability. The 6 Group IV subjects will be tested and retested with the operant procedures within an eight-week period (if possible, depending on the individual subject's availability and suspectibility to conditioning) to determine the reliability of the operant audiometric apparatus and testing procedures with deaf-blind children. Throughout the above four phases of this study, the Project Initiator, who will act as the research examiner and test administrator of the operant audiometry procedures, will be unaware of the subject's conventional audiogram results.

Data Analysis. Conventional and operant audiogram profiles will be statistically analyzed to determine the applicability, validity and reliability of operant audiometry with normal children (Group I), hard-of-hearing children (Group II), difficult-to-test retarded children (Group III), and difficult-to-test deaf-blind, multiply handicapped children (Group IV). As the project title indicates, special attention will be given to the audiogram results obtained with the deaf-blind, multiply handicapped children.

A standard table of random numbers will be used to determine the order in which the subgroups of subjects will receive the traditional standard audiometry or the operant audiometry tests. Counterbalancing will be used to avoid learning effects.

All group IV subjects, during pre-educational placement diagnosis, were tested with some sort of conventional audiometric evaluation--this is a given situation that cannot be controlled.

A 4"x2"x4" factorial design will be used (depicted in figure 1 on page 5a). In figure 1 the four groups of subjects are represented by P_1 (normal), P_2 (hearing impaired), P_3 (retarded) and P_4 (deaf-blind). All 24 subjects will be tested (T_1) and retested (T_2) with both methods (M_1 = conventional and M_2 = operant audiometry) over the four frequencies (F_1 = 250 cps, F_2 = 500 cps, F_3 = 1000 cps, and F_4 = 2000 cps).

The data will be computor analyzed.

A correlational coefficient will be used with all groups to show the strength of the relationship between conventional and operant audiogram results. The standard error of measurment will reveal the degree of variability within these audiograms. A t-test run with the mean differences and the standard

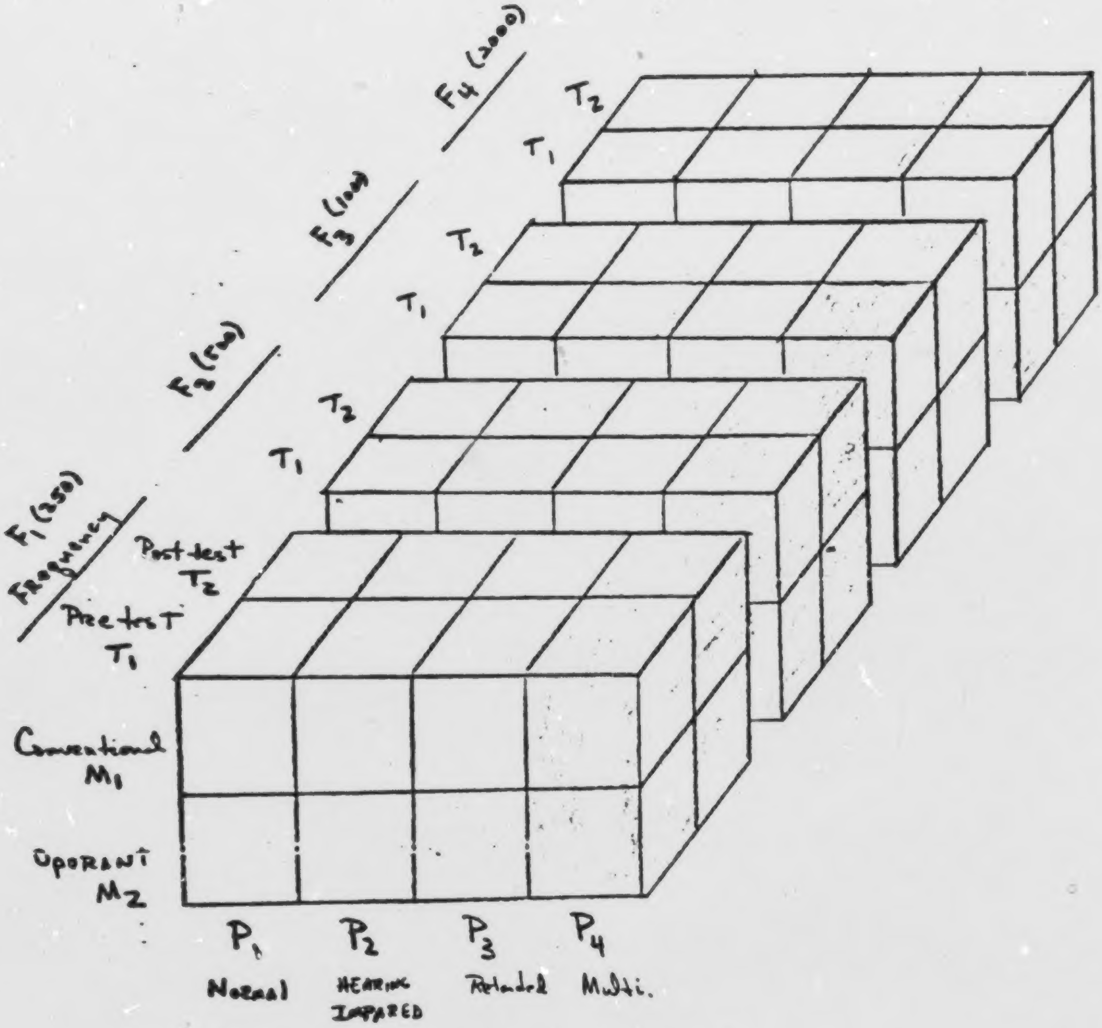
F4 (2000)
T2
T1
F3 (1000)
T2
T1
F2 (500)
T2
T1
F1 (250)
Frequency
Post-test
T2
Pretest
T1
Conventional
M1
Operant
M2
P1
Normal
P2
Hearing
Impaired
P3
Retarded
P4
Multi.

Figure 1.

error of difference for every test frequency will assist in determining which audiometric test procedure used with deaf-blind, multiply handicapped children is "better."

Operant Audiometry Testing Procedures

The five-step orientation and testing procedures that will be used with the retarded and deaf-blind (Group III and IV) subjects in the operant audiometry aspects of this study are given below. Throughout the study, the examiner will be in the controls room and the trainer will be in the response room with the subject.

Step 1. The examiner and trainer will become acquainted with each child and determine adequate reinforcers. The method used by Fulton in which the subjects indicated their choice(s) of available items as reinforcers will be used (Fulton, 1966). Various tangible reinforcers will be available (i.e., pennies, tokens, trinkets, sugared cereals, M&M's, candies) plus visual stimuli ("Christmas tree lights" and white lights), auditory stimuli (a door chime and verbal praise) and tactual stimuli (a vibrator and a body massage).

Step 2. The examiner and especially the trainer will use tangible and social reinforcements to help each child to become acclimated to the test environment. This will involve adapting the subjects to the testing room, shaping them to wear earphones, if possible, and acquainting each child with the actual audiometric procedures. Concerning the importance of the trainer, Bricker, Bricker & Larsen (1968) stated that, "The primary goal of the trainer is to help shape the desired behavior from the child. The ease with which the child attains the desired goal, is, in a large part, determined by the skill of the trainer (p. 5)."

Step 3. A tone stimulus of 500 and 1,000 Hz at 50 to 90 decibels will be used in shaping the subjects to wear the earphones and training them to respond appropriately to the response key. The subjects will be conditioned to press the key during the tone presentation (S^D) interval and to refrain from pressing the key when no audiometric stimulus is present (S^Δ). Warble tone stimuli will be presented through a free field sound speaker to the few subjects who may not accept stimuli via earphones.

Step 4. Step 4 will involve the generalization of the sound stimuli across frequencies. This step will be taken after the subjects indicate that they are conditioned to the test routine and under stimulus control.

Step 5. Operant conditioning procedures applied to audiometry will be continued to determine the screening and/or threshold response levels of the children tested. In the generalization and testing stages (Steps four and five) the following frequencies will be used: 250, 500, 1000, and 2000 Hz.

Apparatus. The component parts of the apparatus will consist of tape recorders, the response box, the electronic programming equipment and Beltone 15 C audiometer. The sound stimuli will be made using the audiometer controls. The printed circuity programming equipment will provide manual control over the desired sound stimuli and reinforcer presentations and automatic control over the print-out data, response counters and sound (S^D) and no-sound (S^Δ) intervals.

The project is scheduled to begin May 1, 1972 and to end August 30, 1973. The study will involve six overlapping yet distinct stages. The six stages are:

(1) Time: July 1 to August 15, 1972. Build the electronic programming equipment, the response box apparatus, and wire up the Beltone 15 C Audiometer.

(2) Time: August 15 to September 1, 1972. Test young normal children (Group I) with the operant audiometry procedures and compare the audiogram results with previously determined pure tone thresholds.

(3) Time: September 1 to October 1, 1972. Test hard-of-hearing children (Group II) and repeat the same data analysis done with the young children above.

(4) Time: October 1 to December 1, 1972. Test the retarded children (Group III).

(5) Time: December 1, 1972 to March 1, 1973. Test deaf-blind, multiply handicapped children (Group IV) residing in the Southeast Region.

(6) Time: March 1 to May 1, 1973. Analyze all the data.

(7) Time: May 1 to August 30, 1973. Write and submit the final report.

SIGNIFICANCE OF THE STUDY

Primarily, the significance of this study lies in the improvements of the testing procedures and apparatus designs which will provide needed flexibility to accommodate the diversity of behavioral repertoires exhibited by deaf-blind, multiply handicapped children. The audiogram data resulting from these innovative apparatus and testing procedures will reveal the actual hearing levels of some difficult-to-test, deaf-blind children. This information will assist others in the selection and development of educational programs for teaching communication skills to multi-impaired children.

PERSONNEL AND FACILITIES

Personnel

Project Director: Verna Hart, Ed.D., Assistant Professor, Department of Special Education, George Peabody College; 05% time commitment

The Project Director obtained her doctorate degree at Wayne State University in 1967. Since that time she has participated in numerous institutes concerning teacher training and educating deaf-blind, multiply handicapped children; has been Director of the Peabody College Evaluation and Treatment Center for Deaf-Blind Children and Project Director of a USOE Special Project, "A Team Teaching Practicum for Teacher preparation in Multiple Handicaps."

The Project Director's responsibility to the project will be to oversee the program and apparatus development and testing procedures discussed within this project proposal.

Project Initiator: Gary Dean Yarnall, Ed.S., Doctoral Student, Department of Special Education, George Peabody College; 100% time commitment.

The Project Initiator received his M.A. in 1968 and his Ed.S. in 1970 from George Peabody College. He has had teaching experience with educable mentally retarded and emotionally disturbed children in a public school setting, with blind-, deaf-, and deaf-blind-retarded children in a regional clinic setting, and with deaf-blind, multiply handicapped children in a private school setting. Mr. Yarnall will conduct the administering of the audiological examinations, operate the electronic programming equipment, and be responsible for the general execution of analysis and data display.

Trainer: Mrs. Sandra Yarnall; 100% time commitment.

Mrs. Yarnall has had teaching experiences with preschool children in a private nursery school and in many church settings. Also, she has frequently assisted her teacher-husband in classroom situations with deaf-retarded, blind-retarded and deaf-blind children. She is a self-taught and experienced "behavior modifier." Her skills and experiences with lower functioning children will enable her to adequately perform the duties required of a Trainer during this proposed project.

Electronic Technicians: Mr. Henry Waters and Mr. Harold Stone

The Electronic Technicians have had extensive experience in the design and construction of behavioral research equipment and have designed and built numerous apparatus to be used in conditioning experiments with handicapped children. Mr. Water's and Mr. Stone's responsibilities to the proposed project would be for surveillance and maintenance of the rather complicated electronic programming and behavior response equipment in the study.

Facilities

The Peabody Evaluation and Treatment Center for Deaf-Blind Children is nationally known for its programs in diagnosis, early intervention and teacher training of multiply handicapped children. Peabody College provides the finest in office, laboratory and library facilities for our use. The Department of Special Education is now housed in the larger part of the third floor (about 12,000 square feet) of the Mental Retardation Laboratory and Child Study Center Building (60,000 square feet) of the John F. Kennedy Center for Research on Education and Human Development. The Experimental School has been administratively placed under the direction of the Department of Special Education. Classrooms and an acoustically-treated testing room are located within the Experimental School.

The Helen Keller Cottage for Deaf-Blind Children located within the Alabama Institute for the Deaf and Blind in Talladega, Alabama will also be available for testing. Dr. W. W. Elliott, President of the Alabama Institute, has written a supportive letter, which is included with the Appendix of this project proposal.

The Bill Wilkerson Hearing and Speech Center is nationally known for its programs in early intervention and training of acoustically handicapped children. During regular school terms, special acoustic preschool programs are carried out, from which Group II subjects for this project would be drawn. Other areas in the Center building are a complete electronics design and repair shop, FM and normal tape recording facilities, and of particular importance, a complete Bruel and Kjaer Hearing Aid Test Facility, located in a sound treated room. The fact that the research and acoustic preschool programs operate within the same organizational division assures maximum cooperation and benefit to both interests.

BUDGET

Cost Sharing

Beltone 15-C Audiometer		$1,200.00
Four-tray Pneumatic Universal Dispenser		3,000.00
Four-track Tape Recorder		150.00
Continuous Tape-loop Audio Announcer		145.00
Air Compressor (3/4 Horsepower)		175.00
	TOTAL	4,670.00

Requested Items

Personnel Salaries		$2,900.00
Employee Benefits (8%)		252.00
Travel		200.00
Supplies and Materials		250.00
Communication		50.00
Duplicating and Reproduction		100.00
Statistical and Computer		150.00
Final Report		100.00
Equipment		2,200.00
Publication Costs		200.00
Consultant Fees for Audiologists and Calibration		500.00
Tangible Reinforcers		100.00
	SUB-TOTAL	7,002.00
*Indirect Costs (15.7%)		1,099.32
	TOTAL	8,101.32

*Indirect costs of 36.6% for salaries, wages and benefits have been audited for Peabody College and are under negotiation with H.E.W.

BUDGET JUSTIFICATION

Personnel Salaries: the amount of $2,900.00 is requested to cover the costs of the electronic engineers (300 hours @ 4.00 per hour), the trainer (400 hours @ 2.50 per hour), and the secretarial assistance (200 hours @ 3.50 per hour).

Employee Benefits: the amount of $252.00 is 8% of the personnel salaries.

Travel: $200.00 is requested to cover the costs of transporting subjects and field observation and pre-test sessions.

Supplies and Materials: the amount of $250.00 is requested for purchase of paper supplies (data forms, calibration checklists, computer cards, log books) and general office supplies.

Communication: $50.00 is requested for a telephone and postage budget to be used for contacts with specialists concerning this project (i.e., Dr. Robert Fulton, Operant Audiology Specialist, Parsons, Kansas).

Duplication and Reproduction: the sum of $100.00 is requested to cover costs of graphing and photographic processing of group data. One section of data to be obtained in this project will be displayed in group audiogram results for the entire test period. Inasmuch as many audiogram results and graphs will be photographed, the writer considers this to be a modest request.

Statistics: the amount of $150.00 is requested to cover the costs of key punching (20.00), computer services (100.00) and statistical consultant (30.00).

Final Report: $100.00 is requested for expenses such as binding, printing, etc., of the terminal report.

Equipment: the amount of $2,200.00 is requested to cover the costs of purchasing printed circuitry components (600.00) and response box materials (1,500.00) and renting a Warble Tone Generator and Full-range Speaker (100.00 for 18 months).

Publication Costs: this $200.00 amount is requested to cover special costs of publication which will arise due to changes for special art work necessary to print graphic material contained in the manuscript. In addition, a contribution to page costs for journal articles will be made.

Consultant Fees: $500.00 is requested for consultant and calibration fees for audiologists from the Bill Wilkerson Hearing and Speech Center, adjacent to Peabody College.

Tangible Reinforcers: this $100.00 amount is requested for purchase of trinkets, foods, pennies, etc..

REFERENCES

Anderson, R. M. Hearing impairment and mental retardation: A selected bibliography. *Volta Review*, 1965, 67:6, 425-432.

Birch, J. W. & Matthews, J. The hearing of mental defectives: Its measurement and characteristics. *American Journal of Mental Deficiency*, 1951, 55, 384-393.

Bricker, D., Bricker, W. A., & Larsen, L. Operant audiometry manual for difficult-to-test children. *IMRID Papers and Reports*, 1968, 5 (19).

Calvert, D. R., Reddell, R. C., Jacobs, U, & Baltzer, S. Experiences with preschool deaf-blind children. *Exceptional Children*, 38 (5), January, 1972, 415-421.

Cooper, L. Z. Rubella: A preventable cause of birth defects. *Birth Defects: Original Article Series*. Vol. 4 (7), December, 1968, 23-35.

Donlon, E. T., Curtis, S, & Wagner, E. Deaf-blind children: Evaluating their multiple handicaps. New York: American Foundation for the Blind, 1970.

Donnelly, K. G. The vibro-tactile technique of conditioning young children for hearing tests. In L. L. Lloyd & D. R. Frisina (Eds.), *The Audiologic Assessment of the Mentally Retarded: Proceedings of a National Conference*. Parsons, Kansas: State Hospital and Training Center, 1965, 59-70.

Frisina, D. R. Measurement of hearing in children. In J. Jerger (Ed.), *Modern Development in Audiology*. New York: Academic Press, 1963.

Frisina, D. R. *A Nonverbal Hearing Test for Children with Deafness*. Washington, D. C.: Gallaudet College, 1966.

Fulton, R. T. Standard pure tone reliability relative to measured intelligence levels with the mentally retarded. Demonstration Project Report No. 70, November, 1966, Parsons, Kansas, State Hospital and Training Center.

Fulton, R. T. & Graham, J. T. Pure tone reliability with the mentally retarded. *American Journal of Mental Deficiency*, 1964, 69, 265-268.

Fulton, R. T. & Lloyd, L. L. (Eds.) *Audiometry for the Retarded: With Implications for the Difficult-to-Test*. The Williams & Williams Co., Baltimore, 1969.

Geyer, M. & Yankauer, A. Testing of young children: Ages two to five. Journal of Exceptional Children, 1957, 72, 723.

Goldstein, R. Detection and assessment of auditory disorders in children less than three years old; a critical preview. *Volta Review*, 1955, 57, 215-219.

References

Lamb, L. E. & Graham, T. J. Audiometric screening in a psychiatric hospital. Journal of Auditory Research, 1963, 3, 338-349.

Lloyd, L. L. Comparisons of six selected audiometric measures on mentally retarded children: A preliminary report. In L. L. Lloyd & D. R. Frisina (Eds.), The Audiologic Assessment of the Mentally Retarded: Proceedings of a National Conference. Parsons, Kansas: State Hospital and Training Center, 1965, 99-118.

Lloyd, L. L. & Melrose, J. Inter-method comparison of selected and audiometric measures used with normal hearing mentally retarded children. Journal of Auditory Research, 1966, 6, 205-207.

Lloyd, L. L. & Reid, M. J. Audiometric studies of mentally retarded subjects: 1951 to present. In L. L. Lloyd & D. R. Frisina (Eds.), The Audiologic Assessment of the Mentally Retarded: Proceedings of a National Conference. Parsons, Kansas: State Hospital and Training Center, 1965, 299-314.

Lloyd, L. L. & Young, C. E. Pure-tone audiometry. In Fulton, R. T. & Lloyd, L. L. (Eds.), Audiometry for the Retarded. Baltimore: Williams & Wilkins Co., 1969, 1-31.

Magaro, P. A., McCoy, D. F., Walton, S., & Sussman, L. Hearing loss in a psychiatric population as a function of subject variables and changes in attention. Report No. 6, 1967. Elgin, Illinois, State Hospital

McCoy, D. F. & Lloyd, L. L. Hearing aid orientation program for mentally retarded children. Report No. 2, 1967. Elgin, Illinois, State Hospital.

McCoy, D. F. & Plotkin, W. H. Audiometric screening of a psychiatric population in a large state hospital. Report No. 1, 1967. Elgin, Illinois, State Hospital.

Meyerson, L. & Michael, J. L. The measurement of sensory thresholds in exceptional children: An experimental approach to some problems of differential diagnosis and education with special reference to hearing. Cooperative Research Project No. 418, U. S. Office of Education, Department of Health, Education and Welfare. University of Houston, Houston, Texas, May 31, 1960.

Myklebust, H. R. Auditory Disorders in Children. New York: Grune & Stratton, 1954.

Rusalem, H., Bettica, L, Haffley, J, & Parnicky, J. New Frontier for Research on Deaf-Blindness. Brooklyn, N. Y.: The Industrial Home for the Blind, April, 1966.

Salmon, P. J. & Rusalem, H. The deaf-blind person: A review of the literature. Blindness, AAWB Annual, 1966, 15-85.

References

Schlanger, B. & Gottsleben, R. H. Testing the hearing of the mentally retarded. Journal of Speech and Hearing Disorders, 1956, 21, 487-492.

Spradlin, J. E. Operant principles applied to audiometry with severely retarded children. In L. L. Lloyd & D. R. Frisina (Eds.), The Audiologic Assessment of the Mentally Retarded: Proceedings of a National Conference. Parsons, Kansas: State Hospital and Training Center, 1965, 33-44.

Sprinkle, P., Fitz-Hugh, G. S., Harden, G., & Waldren, D. Incidence of hearing loss and otolaryngologic disorders in consecutive admissions to a state mental hospital. Virginia Medical Monthly, 1965, 92, 124-129.

Thorn, B. Conditioning children for pure tone testing. Journal of Speech and Hearing Disorders, 1962, 27, 84-85.

U. S. Department of Health, Education, and Welfare. Rubella Vaccine. U. S. Government Printing Office: 1969, 0-367-810.

Wagner, Elizabeth, M. Maternal rubella: A general orientation to the disease. The New Outlook, April, 1967. 10-page reprint.

Waldon, E. F. Testing Hearing of subnormal children. ASHA, 1965, 7, 425.

Yeck, R. L. Speech and language screening of a psychiatric population in a large state hospital. Report No. 5, 1967, Elgin, Illinois, State Hospital.

GEORGE PEABODY COLLEGE FOR TEACHERS
NASHVILLE, TENNESSEE 37203

THE JOHN F. KENNEDY CENTER FOR RESEARCH
ON EDUCATION AND HUMAN DEVELOPMENT

EXPERIMENTAL SCHOOL

PHONE 291-1500
EXT. 259

February 25, 1972

Mr. Gary Yarnall
Special Education Department
Peabody College
Campus Mail

Dear Mr. Yarnall:

At the present time research space in the Experimental School is made available to projects related to the classroom programs. Since your proposed project is related to the present multiple-handicapped class every effort will be made to provide necessary space. Since operant audiometry research is a part of most of the projects in the School, priority for space is relatively high.

Sincerely,

Glen Van Etten
Director

GVE:mb

NATIONAL ADVISORY COMMITTEE: David L. Barelon, Jerome S. Bruner, John J. Conger, Stuart Cook, Frank J. Hayden, Marie M. Hughes, Hylan Lewis, Horace W. M

Alabama Institute for Deaf and Blind
Talladega, Alabama 35160

February 11, 1972

Mr. Gary Dean Yarnall, Doctoral Student
Peabody Box 172
George Peabody College for Teachers
Nashville, Tennessee 37203

Dear Mr. Yarnall:

We were pleased to hear that you are planning to invest much-needed time and energies into devising means for evaluating the auditory acuity of deaf-blind children.

We have the obligation and responsibility to develop the best programs possible for our deaf-blind children. One of the most difficult educational aspects, the teaching of communication skills, must be approached contingent upon the child's hearing abilities. The results of your proposed study, "Development and Field Testing of an Assessment Instrument to Ascertain Auditory Acuity of Deaf-Blind, Multiply Handicapped Children," should be a definite contribution to the field.

We will be happy to work with you through our Helen Keller Cottages for Deaf-Blind in the development and implementation of your study.

Sincerely yours,

W. W. Elliott

W. W. Elliott, President

WWE/lc

THE BILL WILKERSON HEARING AND SPEECH CENTER
1114 19TH AVENUE, SOUTH
NASHVILLE, TENNESSEE 37212

REGISTERED BY THE
PROFESSIONAL SERVICES
BOARD OF THE AMERICAN
SPEECH AND HEARING ASSOCIATION

TELEPHONE
~~[illegible]~~
(615) 383-3420

March 2, 1972

Principal Investigator: Gary Dean Yarnall, Ed. S.
Project Director: Verna Hart, Ed. D.
George Peabody College
Nashville, Tennessee

Re: Grant application of Gary Dean Yarnall, Ed. S.
and Verna Hart, Project Director, Ed. D.

Dear Sirs:

The project proposal referred to above to be submitted by Gary Dean Yarnall and Verna Hart has been reviewed with a great deal of interest.

I feel that it is a needed and worthwhile project, and I support it fully.

The Department of Speech and Hearing Science at Vanderbilt University and the Bill Wilkerson Hearing and Speech Center is glad to participate in this project. We shall be very happy to cooperate in consultation and observation of the hearing test procedures according to the protocol within the grant.

Again, I would emphasis that we shall give cooperation to this project.

Sincerely,

F. J. Kemker

F. J. Kemker, Ph. D.
Chief Audiologist

FJK/jr

A MANUAL
FOR THE DEVELOPMENT
OF SELF-HELP SKILLS
IN MULTIPLE HANDICAPPED
CHILDREN

Experimental Edition, November 1971

A Team Teaching Practicum for Multiple Handicaps

George Peabody College
Nashville, Tennessee

SELF-HELP DEVELOPMENT

TEACHING SUGGESTIONS

In the beginning stand directly behind the child, with your hand on his. Begin by guiding his hand by holding your hand over his. This step is written along the top of the chart as "Will do job with complete physical and verbal or tactual help." As soon as possible, decrease the amount that you help him by moving your hand away from his hand to his wrist. This step is noted on the chart as "Needs physical guidance and verbal or tactual help." After he is able to do this, move your hand to the elbow for occasional guidance or nudges. This is the step called "Needs only slight physical cue and verbal or tactual help." Finally, move your hand to the shoulder for a nudge as needed. This step is called "Needs only a verbal or tactual cue." The next step is complete independence, and this stage of the learning sequence has ended.

Never guide your child more than is necessary -- always try to let him do as much as he can by himself. Praise or reward the child for any closer approximation of the desired behavior. In eating, an appropriate reward would be a small bite of food he likes, of dessert, or of the child's favorite food for eating a bite of something he doesn't like.

USE OF THE CHARTS

Put your child through each of the activities. Color in the chart squares to indicate what your child can do -- his present level of functioning. The square next to the colored square will indicate your teaching objective. If a child can lift a cup and drink with only a verbal or tactual cue, the immediate goal is to have him lift a cup and drink with total independence. Expect spotty looking charts and don't be concerned about them. They show that the child has not learned the sequence. Your goal is to teach the child the missing steps by using the blank squares for your teaching goals. The methods for teaching these steps follow each of the charts.

The development of Olfactory (smell) and Gustatory (taste) senses should be incorporated into actual experiences as the occasion arises. There is little value in teaching the recognition and taste of these objects apart from the proper setting.

Take the washing experience, when the soap is first used the child may be allowed to smell it, thus he can associate its odor with its usage. Hand creams, perfume, nail polish, shampoo all have high value smells and can be taught in association with their use.

The names of foods the child eats can be taught during the meal, or through a lesson on them in the classroom. Follow-through-activities on lessons involving fruits or vegetables might include a game whereby a child must find a particular fruit or vegetable that has been hidden in the room. This may include a lesson in mobility as well if the foods are placed in carefully selected spots. Among the items particularly good for such exercises are bananas, coffee, oranges, lemons, chocolate, peanut butter, onions, cinnamon or cloves. If the found object is edible as is, then the object would serve as an appropriate reward, otherwise a stick of gum, M&M or some other small edible reward might prove satisfying.

USE OF ASSISTIVE DEVICES - The child is able to:

a. Drink without an adaptive appliance Yes________ No________

b. Eat without an adaptive appliance Yes________ No________

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence: remembers to do this task in sequence
FEEDING - When the child is fed, he is able to:					
1. Raise his head to eat					
2. Keep the food in his mouth until he swallows it					
3. Chew the food if necessary before swallowing it					
FINGER FOODS - The child is able to:					
4. Eat finger foods when they are put in his mouth					
5. Hold and eat finger foods when they are put in his hand					
6. Pick up the finger foods and put them in his mouth					
7. Break finger foods into edible pieces and eat them					
8. Bite off appropriate size pieces of finger foods					
DRINKING - The child is able to:					
9. Drink liquids when they are put in his mouth					
10. Keep the liquid in his mouth until he swallows it					

EATING SKILLS (cont.)

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
11. Drink liquids through a straw					
12. Drink from a cup when it is held for him					
13. Lift a cup off the table to drink					
14. Lift cup, drink					
15. Lift cup, drink, return the cup					
16. Lift a cup off the table with one hand to drink					
17. Drink with one hand without spilling it					
SPOON USAGE - The child is able to:					
18. Be spoon fed while sitting up					
19. Eat from a spoon when it is held for him					
20. Hold and eat from a spoon that has been filled for him					
21. Hold and direct a spoon accurately toward food					
22. Hold and fill spoon independently					
23. Direct filled spoon to mouth					
24. Hold a spoon and eat from it					
25. Direct a spoon accurately toward mouth					
26. Eat from a spoon without spilling					
27. Take a bite, put the spoon down and chew					

EATING SKILLS (cont.)

	Will do job wit complete physic and verbal or tactual help	Needs physical guidance and verbal or tactı help	Needs only slig physical cue ar verbal or tactı help	Needs only a verbal or tactı cue	Total independ remembers to d this task in sequence
28. Hold a spoon in finger position while eating from it					
29. Fill a spoon with the appropriate spoon foods and use fingers where appropriate					
FORK USAGE - The child is able to:					
30. Eat adult foods from a fork when fed					
31. Hold a fork in finger position					
32. Hold and fill a fork independently					
33. Direct a filled fork independently					
34. Direct a filled fork accurately					
35. Eat from a fork without spilling					
36. Take a bite, put the fork down, and chew					
37. Use a fork or spoon with appropriate foods					
KNIFE USAGE - The child is able to:					
38. Hold a knife in appropriate fashion for spreading					
39. Spread food placed on bread					
40. Scoop from container and spread					
41. Hold knife in appropriate fashion for cutting					
42. Cut if object is held for him					

EATING SKILLS (cont.)

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
43. Hold object with one hand, cut with knife					
44. Hold object with fork, cut with knife					
45. Put knife down, pick up fork for eating					
TABLE MANNERS - The child					
46. Opens napkin					
47. Tucks napkin in belt, neck or lays on lap					
48. Eats without stuffing mouth					
49. Eats without playing in food					
50. Does not eat too fast					
51. Does not eat too slowly					
52. Holds silverware appropriately					
53. Keeps elbows off table					
54. Eats with one hand, keeps other in lap					
55. Wipes mouth with napkin					
56. Excuses self when leaving table or waits for others to finish					
SELF SERVICE SKILLS - The child is able to:					
57. Pour own drink after carton has been opened or from pitcher					

EATING SKILL (cont.)

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
58. Open carton, pour own drink					
59. Pour without spilling					
60. Select his own tray (or pass serving dishes)					
61. Select appropriate amounts and kinds of food					
62. Carry his tray to the table (or serve self from serving dishes)					
63. Take back his dirty dishes					
64. Clean off his dirty dishes					
65. Put his dirty dishes where they belong					

TEACHING EATING BEHAVIOR

Objective: The end goal for the multi-handicapped child is the ability to eat his food properly and independently.

Testing and Teaching - Swallowing: Before beginning to teach a child to feed himself, be sure he can swallow and chew. He has to be able to swallow in order to drink liquids. When teaching a child voluntary swallowing, his head should be held slightly downward. If a cup is being used, do not have it too full, but be sure there is enough in it so that he does not have to tilt his head back to get a sip. Place the cup slightly behind the teeth and on top of the tongue. When the liquid is in his mouth his lips should be closed to make swallowing easier. A finger pressed on the chin helps close the jaw. Gently stroking the throat helps swallowing. Don't let the child bite the cup. If the child cannot close his lips around the cup, then hold his lips shut with your fingers. Two fingers of one hand are held over the lips while the other hand holds the cup. The child should be taught to take a sip and swallow before taking another sip. If too much is poured into his mouth at once, he may gulp it and choke. If the child stiffens when the cup comes near wait until he relaxes. He will soon learn that he will get food only when he relaxes.

When fed solid food that doesn't have to be chewed, the child must know how to hold the food in his mouth before swallowing it. This is necessary in order to move the food from the front of the mouth to the back of it. Begin with soft foods that do not have to be chewed, such as oatmeal, applesauce, puddings, scrambled eggs, etc. Some children tend to use a pushing action with their tongue and will not readily accept foods. If this is the case, then help him by placing the food midway back on his tongue at first.

Testing and Teaching - Chewing: When teaching a child to chew, start with semi-solid foods like lumpy cottage cheese, mashed beans, and cooked carrots. It may be necessary to work his jaws in an up and down direction in order to get a chewing action started. Gently rubbing his gums may be necessary before or after each bite is given. When the child is ready for chewing, then be prepared to wait him out with each bite. Once the food is in his mouth, do not let him spit it out. If he does, put it or another spoonful back in. The main thing to remember is that you must not demand less of him than he has already given. If he is hungry he will eat, and if he is hungry and the only thing he can get is something he has to chew, then he will chew. Use milk and soft foods as a reinforcer only after he has chewed some food. The first two days are hard on the child and the parent or teacher, but experience has proven that this method works. Once the child has learned to chew, then he is ready to take over the job of learning to feed himself.

Testing and Teaching - Independent Eating: The child can now swallow, hold food in his mouth and chew if necessary. To feed himself he needs to be able to bring his hand to his mouth with fair control. To do this, have him seated in an upright position with his head in a slightly downward position. His feet should be resting on the floor or a foot rest. If the hand to mouth movement is not accurate then give him practice by sticking his fingers in soft sweet substances such as pudding, icings, peanut butter, jelly, etc. If he has trouble getting the fingers to his mouth, then guide him at first. Suckers, bread and chewy cookies that do not crumble can be used if he will hold food in his fingers.

Finger Feeding: If the child can bring his fingers to his mouth he will be ready for this first independent eating, finger feeding. Every child goes through this stage before he is ready to use a spoon. The first step in finger feeding is to get the child to eat the finger foods when they are placed in his hand. Next is to get him to pick up the finger food and put it in his mouth. Some finger foods may need to be broken into small pieces. Finally he should be able to bite off a piece of the finger food, chew, and swallow it.

Drinking from a glass: Now the child is ready to use something other than his hands for the purpose of eating. He usually begins using a glass before the spoon, but there is no set pattern and they may be taught at the same time. He will first need to learn to drink from a glass while you hold it. Second, he holds the glass with both hands, tilts it, and you return it to the table. Third, he holds the glass, tilts it, and returns it to the table with your help. Fourth, he then learns to hold the glass, directs it to his mouth, tilts it slightly, and returns it to the table by himself.

Spoon Usage: Onee the child is ready for spoon eating then finger feeding becomes taboo. This is necessary if he is to move from one step to another. Because of this it is suggested you break usual finger foods into small pieces and have them eaten with a spoon. Once a child has learned to feed himself with a spoon, then he can be taught that some foods are eaten with fingers and some with a spoon.

When you begin teaching the child to use the spoon, it is helpful if you can choose foods that will stick to the spoon. Mashed potatoes, mashed bananas, and thick custards are good starters.

To teach a child to feed himself with a spoon begin by filling the spoon for him, then wrapping his fingers around the spoon with your hand on top of his. Standing in back of him, help him guide it to his mouth and help him put a spoonful in his mouth. Then begin to gradually fade your assistance. First begin removing your hand to his wrist, then to his elbow or shoulder until he will do the act alone. Remove your hand completely when the spoon reaches his lips.

After the child can take the filled spoon from the plate to his mouth without help, then teach him to load the spoon. For the blind child, the fingers of his other hand will be his pusher. Teach him to bring both hands to the plate, one grasping the spoon, the other pushing food onto the spoon. When he is more able to use his fork, knife and spoon, a spoon, knife, or a piece of bread can be used as pushers.

If at any time during the process of learning to use a spoon, the child begins to grab the food, throw a tantrum or show some other form of troublesome behavior, remove the food until he has stopped. If it continues, then he should be taken from the table and not allowed to finish his meal. He will soon realize this behavior will deny him food. Do not give him anything to eat until it is the usual time for another meal.

Fork Usage: The process of learning to use a fork is similar to the spoon. The child will begin to use a fork in the same way that he uses a spoon. Later he will learn that there are certain foods that are easier to eat with a fork and require the use of the tines for piercing. The child should not be rushed into fork usage. Many children feed themselves for a considerable period of time with a spoon before moving to a fork.

Knife Usage: Begin by teaching the child to spread things with a knife such as butter, peanut butter or mayonnaise. After he has learned to spread, gradually teach him to cut meat by using his knife as a cutter and his fork as a holder.

Manners: Through using good manners while feeding the child and teaching him to feed himself, the child will acquire some manners. He can be easily taught to use a napkin. If he appears to stuff himself, simply hold his food back. Many children will eat entirely too slow at first, but as they acquire the ability they will pick up speed.

Cafeteria Service: Because many children are in various types of institutions, it is necessary for them to learn to use a cafeteria. Each cafeteria will differ in lay-out and serving procedure. The following is included as an example of how the process can be taught.

First, the helper takes a position behind the child, placing his hands on top of the child's. They pick up a tray from the stack of trays. The tray is placed on the ledge and the helper demonstrates to the child how the tray can slide along the ledge. The child picks up his napkin and silverware that is next. Demonstrate to the child how he can feel for his plate, grasp his plate with both hands, and direct the plate to his tray. Slide the tray to the next item. Direct him to pick up all the items he needs. When the tray is complete, direct his hands to feel the end of the ledge and let him know that it is the end of the line. Place the child's hand under the sides of the tray. Have him grasp the tray. Carefully and slowly have the child lift the tray from the ledge, holding the tray parallel and in a comfortable position. Walk the child to his place having him feel for the edge of the table. He should learn to slide his tray onto the table from the edge so he does not spill his food. Once the tray is on the table, he should get into his seat. If the child is blind, the helper should tell the child what food is on the tray and where it is located on the plate. If the child knows the position of the hands on a clock, it can be told by saying, "The peas are at three o-clock." Otherwise the child's hand can be held lightly over the food and directed. "Here are the peas, here's the meat, here's the potatoes."

SELF-HELP DEVELOPMENT

DRESSING SKILLS

CLOTHING REMOVAL - The child:	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
1. Takes off socks when they've been pulled off over the heel					
2. Takes off socks					
3. Takes off hat					
4. Opens zipper					
5. Unsnaps snaps					
6. Takes off shoes when untied and loosened					
7. Takes off shoes when untied					
8. Takes off shoes					
9. Pulls one arm out of coat or shirt when unfastened					
10. Pulls two arms out of coat or shirt when unfastened					
11. Opens zipper and takes off coat					
12. Takes off pants if they're pushed down to knees					
13. Takes off pants					
14. Opens zipper and takes off pants					
15. Unties bow (no knots)					
16. Unties bow and half knot beneath					
17. Takes off skirt by stepping out of it when unfastened					

DRESSING SKILLS (cont.)

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
18. Takes off skirt by pulling over head					
19. Takes off over the head clothing					
20. Takes off boots					
21. Unbuckles shoes					
22. Unbuckles belt					
23. Unbuttons large buttons					
24. Unbuttons medium buttons					
25. Unbuttons small buttons					
HAT AND COAT - The child:					
26. Puts hat or cap on head					
27. Puts hat or cap on appropriately					
28. Snaps on cap					
29. Distinguishes back of coat from front					
30. Pushes one arm through coat sleeve					
31. Holds coat so second sleeve moves into position					
32. Pushes arm through second coat sleeve					
33. Pulls coat up on shoulders					

DRESSING SKILLS (cont.)

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
34. Pulls up zipper if the closure has been made					
35. Pulls large buttons through if they've been started					
36. Pushes button through buttonhole					
37. Spreads buttonhole to receive button					
38. Grasps button with thumb and finger on outside edge					
39. Buttons large buttons					
40. Buttons medium buttons					
41. Buttons small buttons					
42. Inserts one side of zipper into the other					
43. Zips coat closed					
SHIRT - The child:					
44. Pushes one arm through sleeve when shirt is held					
45. Pushes both arms through sleeves when shirt is held					
46. Distinguishes back of shirt from front					
47. Pulls T-shirt over head					
48. Pushes one arm through sleeve					
49. Holds shirt so second sleeve moves into position					
50. Pushes second arm through sleeve					

DRESSING SKILLS (cont.)

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
51. Pulls button shirt up on shoulders					
52. Lines up two parts of snaps or buttons and buttonholes					
53. Snaps front of clothing					
54. Pulls T-shirt down over chest					
55. Buttons shirt					
SHOES, SOCKS AND BOOTS - The child:					
56. Puts shoe laces through holes					
57. Crosses laces and places through holes					
58. Laces shoes correctly, crossing and lacing each hole					
59. Loosens shoe laces					
60. Puts foot into shoes					
61. Pulls shoe laces tight					
62. Forms an "x" with the lace ends					
63. Puts one end of lace through the "x"					
64. Pulls lace through "x" to form a half knot					
65. Forms a loop with one of the laces					
66. Makes a second loop around his thumb					

DRESSING SKILLS (cont.)

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independenc remembers to do this task in sequence
67. Pushes loop through to form second half of bow					
68. Pulls bow tight					
69. Buckles shoes					
70. Places right foot into right shoe					
71. Holds sock with heel down					
72. Gathers sock up, thumbs inside					
73. Puts toes into sock					
74. Pulls sock up to heel					
75. Pulls sock over heel					
76. Pulls boots over shoes					
77. Pulls shoe heel down into boots					
78. Pulls boots on all the way					
PANTS - The child:					
79. Holds pants in front, right side up					
80. Puts one leg into pant leg					
81. Pulls up pant leg so foot comes through					
82. Puts second leg into pant leg					

DRESSING SKILLS (cont.)

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
83. Pulls up pant legs so both feet come through					
84. Pulls pants up over hips					
85. Zips pants					
86. Fastens hook					
MITTENS, GLOVES AND BELTS - The child:					
87. Pulls on one mitten					
88. Places thumb in thumb of mitten					
89. Pulls on second mitten					
90. Places thumb in thumb of second mitten					
91. Pulls on gloves					
92. Pulls gloves on, right side up					
93. Puts thumb in glove thumb					
94. Puts fingers in glove fingers					
95. Pulls belt through belt buckle					
96. Puts tongue of buckle in hole of belt					
97. Puts end of belt in belt loop					
SCARF - The child:					
98. Puts scarf around neck					

DRESSING SKILLS (cont.)

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
99. Forms an "x" with the scarf ends					
100. Puts one end of scarf through the "x"					
SELECTION - The child: 101. Chooses clothing according to weather					

TEACHING DRESSING BEHAVIOR

Testing and Teaching - Buttoning Buttons

Buttoning buttons requires good coordination on the part of the child. The task requires that he pull the two pieces of cloth together, grasp the button between the thumb and forefinger of one hand and spread the buttonhole with the thumb of the other hand, insert one edge of the button into the buttonhole, and push the button through with his thumb while pulling through from the other side with the thumb and forefinger of his other hand. Keep spreading the buttonhole so that the button slides through the hole.

Put a shirt on the child and button all but the middle button. Tell the child "Button the button," and observe what he does.

Begin this activity from the beginning with your hand on his, teach him to grasp the button between the thumb and forefinger of his right hand, with his thumb under the outside edge of the button. The edge of the other side of his shirt is held between the thumb and forefinger of his left hand, with his forefinger on the inside of the shirt and his thumb spreading the buttonhole open. Show him how to push one side of the button through the buttonhole, at the same time moving the forefinger of his left hand around to grasp the button as it comes through. Next he must pull the button through with his left hand thumb and forefinger and at the same time pull on the edge of the shirt next to the buttonhole with the thumb and forefinger of his right hand. Begin the buttoning practice with a shirt or coat that has very large buttons.

When unbuttoning, reverse the process.

TEACHING DRESSING BEHAVIOR

Testing and Teaching - Putting on a Pullover Shirt

Putting on a pullover shirt includes determining which side is the back, pulling it down over his head, putting one arm in the correct hole, putting the second arm through the other hole, and pulling the shirt down in front and back.

To evaluate the child's ability to put on a pullover shirt we give him a pullover shirt and tell him to "Put on your shirt." Pay attention to the kinds of errors that he makes because this will tell you what parts of the activity have to be worked on the most.

When teaching dressing skills, begin from the beginning. Place your hands over the child's so that he is grasping the shirt. Work from behind him so that he is getting natural movements. Help him hold the shirt. Pull the shirt over the head. Push the hand and arm through the sleeve. Push the second hand and arm through the other sleeve. Pull the shirt down over the chest.

As the child becomes able to do any step, move your hands back to the wrist, elbow, or shoulder. Put your hands on his only when he cannot do that step.

When undressing, reverse the steps.

TEACHING DRESSING BEHAVIOR

Testing and Teaching - Putting on Socks

Putting on socks can be a very difficult task for many children. It requires that they learn to hold the sock correctly--that is, that the heel-side is down. They must also learn to hold the sock with the heel-side down and with their thumbs inside the sock. Next they must learn to fold the sock up into their hands, place it over their toes, and pull on the top so that it goes over their foot and up their ankle.

Evaluate the child by giving him a sock and telling him to "Put on your sock." Watch for his errors so that you will know what parts of the teaching activity must be worked on the most.

In teaching the child to put on a sock, begin at the beginning. Putting your hands over his, start by correctly gathering the sock up with the thumbs inside the sock, placing it over his foot, pulling it over his heel, and then up over his ankle. It is best to do this while standing or sitting behind him, so that he sees and feels what it should be like if he were doing it himself.

Remember to help the child only as much as he needs it. Move your hands to the wrist, elbow, or shoulder as soon as the child is able to do a particular step by himself. Put your hands over his and move him through those steps he can't do independently.

When taking off the sock, reverse the process.

TEACHING DRESSING BEHAVIOR

Testing and Teaching - Putting on Pants

Putting on pants includes holding them so that the front of the pants is in front of the child with the back of the pants down, putting one leg into the pants leg and pulling it up so that the foot comes through, doing this for the second leg, standing up and pulling the pants up over the hips, zipping or buttoning the pants, and fastening the belt if one is provided.

Evaluate the child's ability by giving him a pair of pants and telling him to "Put on your pants." You should let the child try several times, keeping track of what he does. Pay attention to the kinds of errors that he makes because this will tell you what parts of the activity have to be worked on the most. Chart his behavior so you will know which steps he needs help with.

Seat the child in front of you. Put your hands over the child's and help him grasp the top of his pants with the back next to him. Put one leg into the pants and pull the leg up so the foot comes through. Do the same with the second leg. Have the child stand up and pull the pants up to the waist. Help him only as much as needed. Have him zip or button the pants and fasten the belt using instructions for these steps.

When taking the pants off, reverse the steps.

TEACHING DRESSING BEHAVIOR

Testing and Teaching - Tying Shoelaces

Tying shoelaces is one of the more difficult tasks for many children. The child must be able to use his hands and fingers very well before it will be possible for him to tie his own laces.

The activity consists in pulling the laces tight, tying the first half-knot, looping one of the laces over the thumb, and pulling the other through to form the bow. A useful aid in teaching this activity is to tie two different colored laces together to lace the shoe. This lets him see more easily how the laces go together.

Evaluation for this activity is very easy. Simply put the child's shoe on and leave the laces loose, telling him to tie his shoe. Keep track of his difficulties by charting his behavior. This will tell you how much help to give him as he learns the steps.

First, put his shoe on him and leave the loops long enough so that he can easily get his fingers into them to pull them tight. Putting your hands over his, show him how to pull on the loops to tighten the laces, and then have him pull them himself, guiding his hands if necessary. Be sure to reinforce him for any behavior that is in the right direction.

After he has learned to pull the laces tight, teach him to tie the first half-knot. Begin by showing him how to form an "x" with the laces, and then putting one of the ends under the "x", pulling it out and tight. Have him repeat this until he can do it easily by himself. It is not necessary to loosen the laces each time, but do this frequently enough to make sure that he gets the idea that first he must pull the laces tight, then make an "x", and finally loop one end through and pull it tight.

Next show him how to form a loop with one of the ends. This is enough for this step, so make him practice it until he can do it easily and quickly. Then show him how to loop the other end around his thumb and push it through the loop to form the other half of the bow, and pull it tight. This is probably the hardest part, but if he has been successful in the first steps, he will probably learn this quite quickly.

If, however, the child lacks the coordination to do this and fails to learn the task, it may be necessary to teach him to make a bow by forming a loop with each hand, cross them into an "x", and pulling one loop through. The loops should be treated as single laces if this is done.

SELF HELP DEVELOPMENT

TOILETING SKILLS

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
LEVEL OF FUNCTIONING - The child:					
1. Can be "caught" by the teacher on a time schedule					
2. Can be "caught" by the teacher through teacher's observation of general physical signs of the child's needs					
3. Can sit on the toilet with help					
4. Shows discomfort at soiled pants					
TOILETING - The child:					
5. Locates and enters bathroom					
6. Locates and shuts the door					
7. Locates the toilet					
8. Pulls down pants					
9. Sits on toilet					
10. Eliminates in toilet					
11. Locates paper					
12. Tears off paper					
13. Cleans self					
14. Discards paper					
15. Stands up					

TOILETING SKILLS (cont.)

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence: remembers to do this task in sequence
16. Pulls up pants					
17. Uses pants fly					
18. Re-arranges clothing					
19. Locates handle					
20. Flushes toilet					
21. Locates sink					
22. Washes hands					
23. Leaves bathroom					
TERMINOLOGY - The child:					
24. Uses proper term					
25. Reads and understands signs:					
a. Boys					
b. Girls					
c. Toilet					
d. Rest Room					
e. Washroom					
f. Men					

TOILETING SKILLS (cont.)

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
g. Women					
h. Ladies					
i. Gentlemen					

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TOILET TRAINING

Objective: In toilet training the child should become completely independent in caring for his own toilet needs. Toilet training is a task that requires separate skills that the child must view as one continuous act. This continuous act begins with the feelings the child has when he needs to use the toilet and ends with washing and drying his hands when the task is done. The separate skills required for the multiple handicapped child include locating the bathroom, locating the toilet, pulling down his clothing, sitting on the toilet, eliminating, locating toilet paper, cleaning himself, standing up, pulling up and fastening his clothes, finding the toilet handle, flushing the toilet, locating the sink, washing his hands, and leaving the bathroom.

Testing and Teaching: To teach toilet training, begin by keeping a record sheet pinpointing the exact time when all bowel movements and urination occur. Keep this for three or four days around the clock. This chart will show when elimination is most likely to occur. In order to begin training, the child should have dry periods a couple of hours on his chart. When these dry periods are known training can begin. The chart should show periods of time when the child is likely to urinate or have a bowel movement. Start your training at times when this behavior is most likely to occur. Take the child to the bathroom at the time the chart shows he has gone before. Help him find the toilet. Aid him in pushing down his pants. Seat him on the toilet. Keep him seated on the toilet for at least five minutes, but gradually demand longer periods of time if necessary. If he tries to get up he should be held firmly until he stops struggling. If he does not try to get up for a few seconds, gradually release your hold from him. The child should never be allowed to get up unless he is sitting quietly.

If the child does eliminate show your pleasure and continue your teaching. Direct him in finding the toilet paper, rolling off a portion, tearing it and folding it in his hand. Then direct him to clean himself. Teaching the child to clean himself properly and thoroughly is difficult. Guide his hand as he performs the act. He needs to experience the feelings that come from proper cleaning. It is particularly important for girls to be taught to clean themselves properly in order to avoid spreading germs from the anus to the vagina. Guide her in cleaning in a front to back, never forward, movement. After urination have her use the toilet tissue as a blotter. After the child has cleaned himself direct him to discard the paper in the toilet. Next help him stand and pull up his pants. Help him locate the toilet handle and flush the toilet. Now he must be guided to the sink and taught to wash his hands according to the procedure outlined for hand washing. When this is complete, he leaves the bathroom.

If the child fails to eliminate direct him to stand up and pull up his pants. Guide him to the sink and have him wash his hands before he leaves the bathroom.

With each successful step praise the child in a way he understands. Do not punish failures, but do not reward them.

It is highly unlikely that sequential order will be used in acquiring this skill. A child may first learn to flush the toilet, or pull down his pants. For this reason the measurement of his ability is needed on each step of the skill.

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SELF HELP DEVELOPMENT

GROOMING SKILLS

WASHING

READINESS - The child:	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
1. Shows interest in playing in the water; permits hands to be washed and dried					
2. Shows interest in faucet and stopper					
HANDS - The child:					
3. Locates sink					
4. Locates faucet					
5. Turns water on					
6. Wets one hand					
7. Wets both hands					
8. Locates soap					
9. Gets soap on hands					
10. Rubs soap on hands					
11. Rinses hands					
12. Locates faucet					
13. Turns water off					

GROOMING SKILLS (cont.)

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
14. Locates towel					
15. Takes towel					
16. Dries hands					
17. Locates waste basket					
18. Throws towel away or hangs it up					
19. Washes his hands at appropriate times					
FACE - The child:					
20. Turns on hot and cold faucets					
21. Regulates the water to a warm temperature					
22. Gets washcloth wet					
23. Rubs soap on cloth					
24. Washes face (not ears)					
25. Rinses cloth					
26. Rinses face					
27. Rinses cloth and puts it up to dry					
28. Rubs face dry					
29. Washes face at appropriate times					

GROOMING SKILLS (cont.)

BATHING - The child:

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
30. Prepares bath water					
31. Bathes self					
32. Dries self					

WASHING HANDS

Task Definition: Washing hands is a task which requires several skills performed in a sequential order. It requires the multi-handicapped child to locate the sink, then the faucet, turn it on, get the soap, rub his hands, rinse them, turn off the faucet, get a towel, dry his hands and discard or hang up the towel as the case may be.

Testing and Teaching: To evaluate the child's ability, we tell him to "wash your hands." If he cannot hear you then indicate in some way what it is that we want him to do. As he tries, keep track on the check list of how much help he needs. This check list becomes the teaching guide.

In teaching this activity start from the beginning. Identify the sink as the place where hand washing occurs. He is taught the feel of the faucet handle and is helped to turn it "on". If blind, he then follows his hand down the faucet to locate the water. Next he must put both hands in the water to wet them. Then he must locate the bar of soap, pick it up, rub it in his hands, replace it and continue to rub his hands under the water. He must then rinse his hands, find the faucet, turn off the water, locate and get a towel, then crush it and discard it in the trash can, or hang it on the bar as the case may be.

Place your hand over the child's and put him through all of the steps in hand washing. Withdraw your hands to the wrist, elbow, or shoulder if the child can carry out any of the steps. Do not help with any step that the child can carry out himself.

GROOMING SKILLS (cont.)

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
HAIR - The child:					
1. Uses comb and brush on others					
2. Admires own hair when well groomed					
3. Removes barrette from hair					
4. Brushes hair					
5, Combs hair (or brushes) down on sides					
6. Combs hair down in back					
7. Replaces clips, barrettes					
8. Cleans comb with brush					
9. Combs or brushes hair at appropriate times					
SETTING AND SHAMPOOING - The child:					
10. Sets or rolls her own hair					
11. Washes own hair					

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GROOMING SKILLS (cont.)

	Will do job with complete physica and verbal or tactual help	Needs physical guidance and verbal or tactua help	Needs only sligh physical cue and verbal or tactua help	Needs only a verbal or tactual cue	Total independenc remembers to do this task in sequence
BRUSHING TEETH					
READINESS - The child:					
1. Shows interest in brushing teeth or owning a tooth brush					
2. Plays at brushing teeth					
TOOTHBRUSHING - The child:					
3. Locates sink					
4. Gets his tooth paste					
5. Takes cap off paste					
6. Gets his brush					
7. Puts paste on bristles					
8. Puts brush into mouth					
9. Brushes teeth front, back, up, down					
10. Spits paste out					
11. Turns water on					
12. Gets cup					
13. Gets water in cup					
14. Rinses mouth and spits					

GROOMING SKILLS (cont.)

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
15. Rinses brush					
16. Turns off water					
17. Returns brush to proper place					
18. Puts cap on paste					
19. Returns paste to place					
20. Locates towel					
21. Wipes mouth					
22. Wipes hands on towel					
23. Brushes teeth at appropriate times					

BRUSHING TEETH

Task Definition: Brushing teeth, like washing hands, is a task which requires several skills performed in a sequential order. It requires the multi-handicapped child to locate the sink, the toothpaste, remove the cap from the paste, locate the brush, brush his teeth, turn on the water, get his cup, rinse his mouth and the brush, turn off the faucet and replace the cap and return the paste and brush to its proper place. He must finish the act by finding a towel and drying his hands and mouth, and replace the towel or discard it as the case may be.

Testing and Teaching: To evaluate the child's ability, tell him to "brush your teeth." As he tries, keep track on the check list of what he does, noting the kinds of errors he makes because they will show what parts of the skill the child has not developed. If the child is unable to do the task, or any part of it, give him as much physical help as he needs, but carefully record the steps in which he needed help, and how much help was needed. Remember that the child is to perform all segments independently if he can. The check list becomes the teaching guide. It will tell where to begin to teach each segment of the skill.

GROOMING SKILLS (cont.)

	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence: remembers to do this task in sequence
MISCELLANEOUS					
NOSE CARE - The child:					
1. Allows nose to be wiped when necessary					
2. Wipes nose with assistance					
3. Blows nose with assistance					
4. Blows and wipes nose when reminded					
5. Covers nose when sneezing					
6. Covers mouth when coughing					
7. Blows nose when appropriate					
8. Cares for used tissues					
NAIL CARE - The child:					
1. Allows nails to be cared for					
2. Admires well groomed nails					
3. Attempts to clean his own nails					
4. Asks for help in filing or cutting nails					
5. Cares for own nails					
6. Attempts to apply polish (girls)					

GROOMING SKILLS (cont.)

CARE OF BELONGINGS - The child:	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence remembers to do this task in sequence
1. Hangs coat, smock, etc. on hook					
2. Goes to proper place for own things					
3. Hangs towel and washcloth on hooks					
4. Gets own grooming supplies from proper place					
5. Puts hats or scarves in proper place					
6. Hangs coat on hanger					
7. Removes boots before coming in					
8. Wipes muddy shoes before coming in					
9. Shines shoes with assistance					
10. Cares for his belongings independently					

APPENDIX J

A MANUAL FOR PARENTS AND TEACHERS OF SEVERELY HANDICAPPED CHILDREN

Developed under a USOE Special Projects Grant,
"A Team Teaching Practicum for Teacher
Preparation in Multiple Handicaps"

George Peabody College for Teachers
Nashville, Tennessee
August, 1972

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MOTOR MANUAL

Introduction

This section of the manual is a pragmatic answer to the cry for "help" which is heard nationally from those concerned with motor development and physical education for the multi-handicapped child.

Presented is an "ideas" approach for instruction designed for use by teachers, parents, volunteers, and those involved in teacher preparation. It is hoped that the basic knowledge presented will serve as a foundation from which more adequately structured motor training programs will develop, and will equip more people to effectively and efficiently provide realistic and rewarding motor learning experiences for multi-handicapped children.

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Suggested Teaching Techniques

1. Educational principles of effective teaching and learning are applicable to the multi-handicapped and should be utilized, for instance, from the known to the unknown and from the simple to the complex. Motor development should proceed from gross to fine movement and from trunk movement to movement of the extremities. Methods of motivation should be basic to any activity program: conventional methods of verbal praise and acceptance, praise based on improved performance, and operant conditioning. Instructor enthusiasm and participation are keys to pupil enthusiasm and participation.

2. In working with the multi-handicapped child a maximum number of stimuli should be used in teaching a basic movement skill (multi-sensory). It is doubtful that the entire range of stimuli would be practical, but those which can contribute successfully to understanding and performance on a given level should be appropriately used.

    a. Kinesthetic - Guiding body parts through desired movement to hopefully result in a proper response. This gives him the "feel" of the action and can do much to alleviate the initial fear.

    b. Tactile - The use of touch to relate more effectively to the child that part of the body to be used.

    c. Visual - The use of visual aids in combination with other stimuli (i.e., pictures, mirrors, demonstrations)

    d. Verbal - Oral instructions should be kept very simple. An awareness of the language understanding and hearing awareness level of the child is necessary. Sometimes a concept can be understood but not carried out because of unfamiliar terminology.

3. Selection of activities should be based upon the individual ability, level of proficiency, and personal need. Mental age, background, and previous experience in the activities will help give valuable clues in selecting activities appropriate for the individual. The guides must be in success, enjoyment, and the learning experienced.

4. The chronological age of the child should be considered as well as the level of development.

5. Be attuned to laughter and excitement. These are good measurements of enjoyment.

6. Be consistent in the way you handle the child.

7. Be demanding - if you don't ask you will not receive.

8. Learn the child's fatigue tolerance level.

9. Provide opportunities for occasional student selection of activities.

10. Develop a sequential order in the establishment of an exercise routine.

11. Keep in mind that a child must "learn to move" before he can "move to learn".

12. Designate a definite time period during the day for motor training.

A BEGINNING MOTOR PROGRAM
FOR MULTIPLE HANDICAPPED CHILDREN

General Instructions:

1. Have the child dressed in loose fitting, comfortable clothes.
2. Take off his shoes.
3. If you have a firm mat, place it on the floor, if not use a rug that doesn't move around or just use the floor.
4. Exercise the child about four times a day for 10 minutes a session. Make it fun - play with a purpose!
5. Begin with the first exercises and gradually add additional exercises when he shows progress.
6. Give him rewards when he has done his exercise. He will probably be tired, so a drink of juice, water plus "good boy" will probably be well received.
7. Each time demand more effort on his part.
8. Be consistent in the way you handle the child during the exercises.
9. Try to stick to a time schedule of when he is to get his exercises.
10. Train his brothers and sisters in how to exercise the child.
11. Always talk or sing to him while exercising him.
12. Talk or sing about the part or parts of his body.

MOTOR DEVELOPMENT PROGRAM FOR MULTIPLE HANDICAPPED CHILDREN

I. General Coordination

A. Lying flat on back position. Before we can begin exercising a child or teaching him the motor movements we want him to have, we must have him lie on his back with his legs straight and together and his feet upward. His arms should be at his sides and his face upward with eyes pointing toward the ceiling even though he can't see. We also want him relaxed.

B. Head movements. We begin with basic head movements because these are the first to develop and we want the child to experience sequential motor development, making sure he has learned one movement before moving to the next step.

1. Head Roll. Have the child assume the back starting position described above. Kneel behind the child's head and place a hand on each side of his head above the ears. Rotate the head to one side until his ear touches the mat, then as if he were leading with his eyes, rotate his head to the other side until the ear touches the mat. This exercise should be done without moving his shoulders or body. It is done in a rhythmic pattern, perhaps counting one-two, while saying a simple nursery rhyme such as "Jack and Jill" or using his name in a little verse ("Johnny Smith is turning his head") that you can make up to the one-two rhythem. While doing this it is good to incorporate the name of the body part in the movement.

This exercise should be continued until it is mastered. You want the child to understand the movement and do it voluntarily once he knows that you want him to do it. For this reason you will gradually fade your hands from his head as he is able to move the head in the desired pattern independently.

2. Head Lift. Have the child assume the same back position. With the instructor in the same position, place one hand behind the child's head and the other on his forehead. Lift his head off the mat and have his eyes in the direction of his toes and his chin touching his chest. The same rhythmic patterns described above should accompany this movement. Follow the same fading procedures as the child is able to make the desired movements independently.

3. Head Lift and Roll. This is a combination of the first two exercises. We begin with the child in the back position and the instructor kneeling behind his head. The instructor's hands are on the sides of the head. The child's head should be turned to one side with the ear on the mat. As you begin to turn his head you lift it until the chin touches the chest then you continue the rotation until the ear is on the mat on the other side. Continue this pattern in a 1-2-3 rhythm until the child can perform the exercise correctly and independently.

C. Bilateral Movements. The child moves both arms at the same time before he moves them independently. The same is true for his legs. For this reason, we engage him in bilateral patterns before we begin unilateral patterns.

1. Bilateral Arm Movements. Have the child assume the back position. The instructor kneels next to the child's thigh facing the child. Place a hand on each of his wrists (which are at his sides), keeping his elbows straight, slide his arms on the mat until his hands touch behind his head. Then move them back to his sides. It is important for the child to be relaxed, but have straight arms. We also want him to feel the mat or floor as he slides his arms across it. Again a rhythmic pattern is necessary and many songs or games can be adapted to this activity.

2. Bilateral Leg Movements. Have the child assume the back position. The instructor kneels at his feet facing the child. He places a hand on each foot and moves the legs apart as far as they can go, then slowly moves them back to the original position with the heel touching. The legs should be relaxed, the knees straight, but not stiff. The child needs to feel his legs moving across the mat and his heels touching. A slow rhythmic pattern similar to the bilateral arm rhythm should be followed in this exercise also.

3. Arm and Leg Movements. This exercise is a combination of 1 and 2. It is difficult for the instructor to follow through on all limbs at the same time, so do not attempt it until you know the child can and will make some of the movements independently. It is easiest for the instructor to kneel at the child's thigh horizontal to his body. Have the child assume the back position. Place a hand on one ankle and the wrist of the same side. Slowly move the arm and leg on the floor at the same time until the hands touch above the head and the legs are extended as wide as they can go. The child should be moving his other arm and leg at the time you move one side. Then move the arms and legs to their starting position. Again establish a rhythmic pattern of arms and legs out, then together. This exercise will require much work before a smooth rhythm and coordination of movements is established. It may take a longer period of assistance before the instructor can successfully fade the cues and have the child perform independently.

D. Alternating Movements. Now the child is ready to move parts of his body alternately. The movements are necessary for the child if he is to creep, crawl, walk, or climb a ladder.

1. Alternate Arm Movements. Have the child assume the back position. The instruction should kneel to one side of his shoulders horizontal to his body. Place a hand on each wrist and keeping the elbow straight slide one wrist up and out to the side of the head until it reaches its maximum point above the head. The other arm remains at its side. As the high arm begins to return to its side the other arm begins to slide along the floor to the top position. As one arm reaches the top position the declining hand should hit his thigh. Again follow through on a rhythmic pattern of movements.

2. Alternate Leg Movements. Have the child assume the back position. The instructor kneels at his feet facing the child. He places one hand on each foot. He slowly extends one leg across the floor until it reaches its maximum height. When that leg is ready to descend begin

moving the other leg up and out, as one peaks the other should reach the original position. Follow a rhythmic pattern.

3. Alternate Arm and Leg Movements. Have the child assume the back position. The instructor kneels at his thigh horizontal to the child. Place a hand on one wrist and the opposite ankle. Slowly move the arm and opposite leg across the mat to extend them as high as possible. Then return them to the starting position. Repeat the sequence using the other arm and leg. While one leg and arm are moving, the other remains still. Follow a rhythmic pattern.

E. Movements in Space. Most of the previous movements have all been executed in a two dimensional plane. We are now ready to add a third dimension. It is this dimension that allows the body to move in space.

1. Arm-Space Movements. Have the child assume the starting position. The instructor kneels at his waist facing the child. Move his arms out to form right angles with his body. Pause here so the child will know a new movement is beginning from this position. Raise both of his arms directly above his face, clapping his hands together. Then lower the arms to the extended position. Always keep the elbows straight. Begin the sequence again from this point. On the count of 1 raise the arms to clap, on 2, lower them.

2. Leg Movements in Space. Have the child assume the starting position. The instructor should kneel at the child's feet facing the child. Place one hand on each foot. Raise legs together until they are at right angles with the body. Lower the legs to the starting position. Follow the pattern in a rhythmic sequence.

3. Alternating Arm Movements in Space. Have the child assume the starting position. The instructor kneels at his waist facing the child. Move his arms to the right angle position. Place a hand on each wrist. Raise one arm to the high position. As this arm is lowered, the other arm is raised to the high position. Again a rhythmic pattern is followed.

4. Alternating Leg Movements in Space. Have the child assume the back position. The instructor kneels at his feet facing the child. Place a hand on each foot. Raise one leg until it is perpendicular to his body. As this leg descends, raise the other leg to the high position. One leg reaches the height as the other leg touches the floor. Continue this routine in sequence.

5. Alternating Leg-Arm Space Movements. Have the child assume the back position. The instructor kneels at his waist facing the child. Place one hand on the child's ankle and one on the opposite arm. Keeping both the leg and arm straight, raise both perpendicular to the body. As these begin lowering by themselves begin raising the other leg and arm. Continue this routine with a count.

6. Rolling. Now the child is ready to begin moving his body in space. An infant begins rolling from his stomach to his back before the back to stomach roll. Therefore we want to start him in a stomach position.

Have the child lie on his stomach with his legs slightly separated and his hands parallel to his shoulders and holding his weight. He looks as if he were going to do a push-up. If you want him to do a right roll, have him turn his eyes to the right, his head to the right, and push with his right hand and turn his body over. He will end up on his back with his eyes pointing upward.

To get the child back to his stomach, put his hands out from his shoulders, turn his eyes and head to the right, lift his shoulders off the mat with his weight resting between the elbow and hand of his right arm. Have him push against the mat with the left hand and turn his body over, ending up on his stomach.

The same procedure should be used to teach the roll to the left, substituting left side for right side.

7. Rolling Sit-ups. Have the child assume the stomach position described above. The instructor kneels at his waist on his left side facing the back of the child's head. Turn his head to the right, lower his right shoulder, push with his right hand and roll over into a sitting position. In this position his eyes should be pointing forward toward his feet. To complete the roll, have him turn his head to the right, lower his right shoulder placing his weight on the elbow to wrist portion of the right arm, and push with his left hand. He should end up on his stomach with his face pointing outward.

8. Hands and Knees Roll. Have the child assume the back position. The instructor kneels at his waist facing the child. Turn his head to his right, raise his arms halfway between his sides and shoulders, have his push with his left hand, lower his right shoulder, place his weight on his elbow to hand portion of his arm and turn over coming up on all fours in a crawling position. His face should be facing the floor. His weight should be resting on his hands which are on the floor and slightly outside his shoulders, and his knees which are directly under his buttocks. The lower portion of his legs extends directly behind his knees and his feet turn slightly outward. To continue the right roll, roll his face to the right, have his eyes pointing towards the ceiling, drop his left shoulder and roll him onto his back. His eyes should be towards the ceiling. The left roll follows the same procedure to the left side.

9. Hands and Feet Roll. Have the child assume the back position. Raise the arms halfway between his sides and shoulders. Roll his head to the right, push against the floor with his left hand, lower his right shoulder, turn his body but keep his knees stiff and let him come up on his hands and feet as if forming a bridge. To follow through on this roll, have him turn his head to the right, drop his left shoulder, turn his face toward the ceiling and end up on back looking at the ceiling. For the left roll follow these procedures on the left side.

BODY IMAGE

Before a child can relate to another person or things around him, he must first have an awareness of "self." He needs to discover how his body moves, he has to be able to sort out one part of his body from another, and he should be able to distinguish between right and left. We know that children start to develop an awareness of their bodies during infancy, and this continues to grow as the child matures. Often, the handicapped child develops no stable image of himself; he is often unable to locate correctly his body in relation to other objects, nor can he locate other objects in relation to his body. If a child develops a good image, he will have a sound base upon which to build the perceptual skills which will be needed before he can perform regular classroom activities.

Training procedures, sequentially described in this section, may be used to develop this awareness of body.

Evaluation

If the child is able, supply him with large sheets of paper and crayons. Ask the child to draw a picture of himself. This will provide an evaluation of how the child views himself, and it is suggested you keep this paper to compare with future evaluations.

Identify body places

(front, back, sides, top, bottom)
- touch the front of your body
- touch the top of your head
- touch your side
- etc.

Vary this activity by having him roll on mat/rug or standing against a wall or other object.

- touch the wall with your back
- lie on the mat on your side
- place your front toward the chair

Identify body parts

The teacher touches different parts of her body and says, "This is my head; touch your head." Use the most obvious parts of the body at first. If the child is not aware of the body part, move his hand and touch the part for him. Start with two parts and add others, one at a time, as child is able to handle them:

mouth
neck
elbows
toes
fingers
back
feet

ears
shoulders
legs
wrists
chest
hips
heels

chin
arms
ankles
hands
stomach
knees
buttocks

Touch body parts to surroundings:

- head to floor
- hands to wall
- elbows to chalkboard
- knees to floor
- head to table or desk
- back to wall
- ankles to wall
- nose to window
- ear to chair
- shoulder to floor
- fingers to books
- chest to desks
- wrist to chalkboard
- stomach to floor

Identification of body parts

Have the child imitate the teacher in the movement of a specific body part. Always identify the part.

- Nod your head
- Close your eyes
- Twist your neck
- Bend your elbows
- Clap your hands
- Wiggle your toes
- Roll your head
- Wiggle your nose
- Open your mouth
- Shrug your shoulders
- Click your fingers
- Bend your knees
- Stamp your feet
- Clap your hands
    - in front of you
    - behind you

After you are sure the child understands the above commands, tell him to move a specific body part. Do not demonstrate if possible.

- Nod your head
- Close your eyes
- Twist your neck
- Bend your elbows
- Clap your hands
- Wiggle your toes
- Wiggle your nose
- Open your mouth
- Shrug your shoulders
- Click your fingers
- Bend your knees
- Stamp your feet

If the child cannot speak let him point:

- Where do you taste?
- Where do you see?
- What do you smell with?
- What do you walk with?
- etc.

Place a piece of paper as large as a child on the floor. One child lies on his back on the paper while another child draws around him (the teacher may have to do this), making the outline of his body. If possible, each child should have the experience of drawing around another child and seeing himself on paper. The child can also stand against the wall on which the paper has been taped. This lets others see what is being done.

Instruct the child to color a designated part of the outlined body a specific color or according to the way he is dressed.

Identify parts on pictures or models of other people or animals.

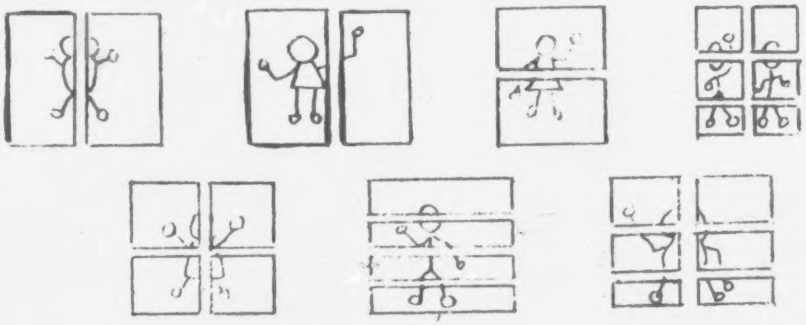
Dress and undress large dolls - identify the parts. (Good also for manipulation.)

Using drawings, pastings, or a flannelboard, have the child add missing parts to the outlines of people and animals.

Collect pictures of specific body parts and ask the child to identify them.

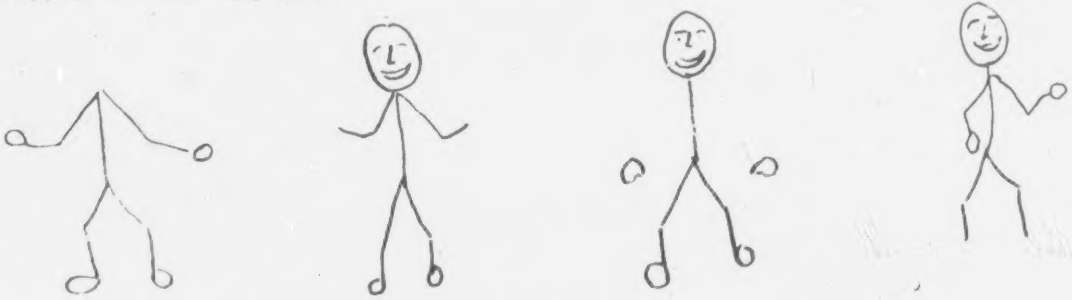
Paste a picture of a specific body part (such as a nose) on a sheet of paper. Have the children draw a complete person around this part.

Provide puzzles of people (vertical and horizontal cuts):



Begin with the simple two piece pizzles, then the three piece, etc. Magazines and coloring books are a good source for pictures. Make sure all pieces of the same puzzle are cut in the same shape and size. This forces the child to look at the picture.

Draw an incomplete man on the chalkboard or on paper and ask the child to supply the missing parts.



To emphasize body parts, teach the child to do the "Hokey Pokey."

Cut up paper dolls and put them into envelopes. Give an envelope to the child and ask him to reassemble the paper doll.

To emphasize body parts, teach the child to do the "Looby Lou."

Use of body parts

State the usage of the body part and let the children supply the name.

I see with my ____________________
I smell with my __________________
I blink my _______________________
I talk with my ___________________
I clap with my ___________________
I snap my ________________________
I walk with my ___________________
I wave my ________________________
I shrug my _______________________
I jump with my ___________________
I write with my __________________

Guide to correct body mechanics

To best teach patterns of basic movements, the parent or teacher must know the correct position for each movement.

Balancing The child balances:	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total independence: remembers to do this task in sequence
On all four hands and feet					
On two feet					
On one foot					
On two feet with hands touching legs or hips					
On two feet with arms reaching forward					
On two feet with arms reaching to the side					
On a balance beam or board					
On two feet with eyes closed					
With no extraneous motion or movement					

The following are ways to help the child develop good balance skills.

BALANCE

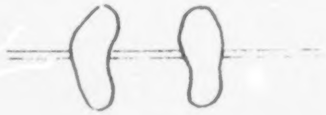
Balance is body control using both sides of the body at the same time, one at a time or individually. It is necessary to basic tasks of locomotion.

Have the child assume hand and knee positions on the floor.

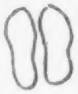
Have the child raise one hand in the air. Put that hand down and raise the other hand.
Have the child raise one leg in the air. Put that leg down and raise the other leg.
Have the child raise his right arm and right leg.
Have the child raise his left arm and left leg.
Kneel upright.

Vary the activity so that only 2 points of the body touch the floor.
Have the child raise alternate hands and legs in the air, right arms and left legs.
Have the child raise his left arm and right leg, slowly. (This is a cross pattern)

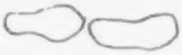
Stand the child on a line
- feet parallel



- feet and heels together

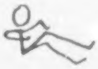


- heel-to-toe standing

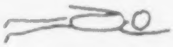


Have the child:

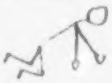
Balance seated - remain still for increasing periods of time



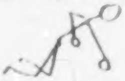
Balance while lying on side

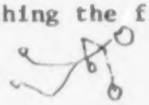


Hand and knee balance, with 4 points of the body touching the floor

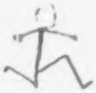


Hand and knee balance (touching the floor at 2 and 3 points)





Knee-foot balance (touching the floor at 2 points)



Stand with one knee held high
Stand with arms folded across the chest
Stand with eyes closed
Stand on one foot, eyes closed, arms folded across the chest
Stand on one foot, eyes closed, arms folded across the chest, and knee high
Balance on tiptoes for the count of ten
Stand on one foot for the count of five. Change feet.
Rise from a sitting position on the floor, keeping arms folded across the chest.

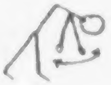
Sit and sway from side to side (legs crossed, then held out)

Sit and sway forward and backward (legs cross, then held out)

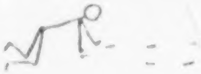
Put hands on hips with feet apart; lean forward, keeping the knees stiff. Lift the heels from the floor. Rock backward, lifting the toes from the floor.

Rock from side to side.

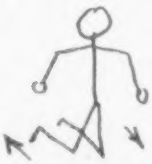
Elephant walk - Bend forward from the waist, allowing arms to hand limply with hands closed. Walk forward by taking big steps.



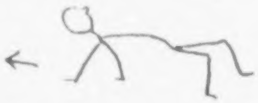
Lay out hand prints on the floor. Have the child crawl putting his hands on the hand prints.



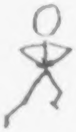
Have the child walk forward on his knees
Have the child walk backward on his knees



Crab walk - Have the child sit on the floor, placing his hands on floor behind him. Raise his body so that the child is standing on his hands and feet. Have him walk on his hands and feet in a backward direction.



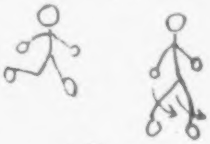
Frog Squat - With the child in a squatting position have him place his hands on his hips. One leg is straightened and then bent. Repeat with the other leg, with a hopping motion.



Bunny hop - Place hands at the sides of the head, forming rabbit ears. Hop forward, keeping both feet together.

Have the child:

- Stand on the right foot with arms at the sides and eyes closed. Count to five.
- Stand on the left foot, arms at sides and eyes closed. Count to five.
- Stand on tiptoes with eyes closed. Count to five.
- Stand on the right foot with arms folded and eyes closed. Count to five.
- Stand on the left foot with arms folded and eyes closed. Count to five.
- Fold arms and close eyes. In this position, jump on both feet.
- Jump on the right foot with eyes closed.
- Jump on the left foot with eyes closed.
- Stand on one foot and hop in place.
- Hop in rhythm; alternating feet.
- Jump backwards with controlled landing
- Gallop
- Skip
- Stand on both feet with eyes closed. Jump and turn while in the air. Use 1/4 and 1/2 turns only.



1/4 turn

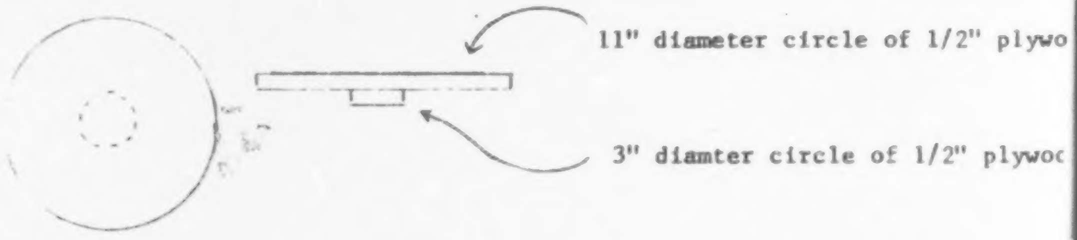
1/2 turn

- Stand on the right foot with eyes closed. Jump and turn, while in the air. Use 1/4 and 1/2 turns only.
- Stand on the left food with eyes closed. Jump and turn, while in the air. Use 1/4 and 1/2 turns only.

Balance Board

Have the child:

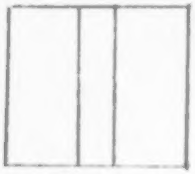
- Stand on the board and maintain his balance
- Step up on the board then step down
- Stand on the board and tip forward, balance again
- Stand on the board and tip backward, balance again
- Stand on the board and tip to the left
- Stand on the board and tip to the right
- Stand on the board and make a 1/2 turn
- Stand on the board and make a complete turn
- Stand on the board and bend to pick up an object
- Stand on the board and reach to grasp an object
- Stand on the board and throw a ball
- Stand on the board and catch a ball
- Stand on the board and touch different parts of the body on comman balancing all of the time


11" diameter circle of 1/2" plywo
3" diamter circle of 1/2" plywoc

Balance boards can also be square

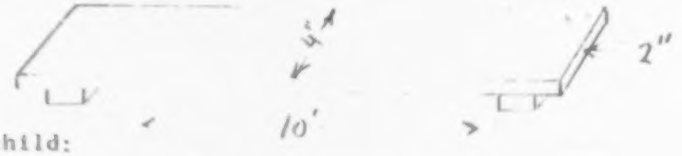
side view

bottom view



Walking Board Activities

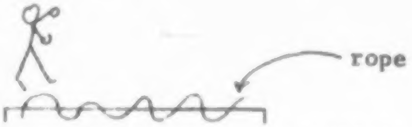
If a child is unable to walk the board, set up a "walk" using newspapers or masking tape and have the child walk with the path. Narrow the width of the path as the child gains in ability. Use a walking board and gradually work the child down to use the narrow balance beam, Place strips of non-skid tape on the surface of the board to prevent slipping.



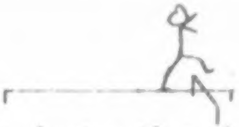
Have the child:

- Walk slowly, one foot in front of the other.
- Walk forward on the beam, arms held out at the side. Do the same walking backward.
- Walk forward to the middle of the board, turn one half way around and continue to the end of the board in a backward motion.
- Walk forward to the middle of the balance beam, then turn and walk sideways the rest of the way with left side leading. Do the same thing but with the right side leading

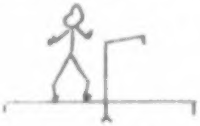
- Walk forward with the left foot always in front of the right. Do the same thing with the right foot in front of the left.
- Walk backward with the left foot always in front of the right. Do the same thing with the right foot in front of the left,
- Walk forward with hands on hips.
- Walk backward with hands on hips.
- Walk forward with arms folded across the chest.
- Walk backward with arms folded across the chest.
- Walk forward with arms straight over the head.
- Walk backward with arms straight over the head.
- Walk forward with arms held straight out in front.
- Walk backward with arms held straight out in front.
- Walk forward and pick up a chalk eraser from the middle of the beam.
- Walk forward to the center, kneel one one knee, rise and continue to the end of the beam.
- Walk forward with eraser balanced on top of the head.
- Walk backward with eraser balanced on top of the head.
- Walk to the center and pick up an eraser placed in the center. Place the eraser on top of the head, continue to end of the beam.
- Walk with obstacles on the board.



- Walk over the obstacles. (These can become higher and higher as child becomes more proficient.) Walk backward over the obstacles.



- Walk under obstacles a foot shorter than the child.
- Walk backward under obstacles a foot shorter than the child.



- Walk forward, arms held at the sides, palms up, and with an eraser or beanbag in each hand.
- Walk forward, arms held at the sides, palms down, and with an eraser or beanbag on the back of each hand.
- Walk the beam sideward, right side leading; and then left side leading.
- Walk forward to the middle, kneel on one knee, straighten the right leg forward until the heel is on the beam and the knee is straight. Rise and walk to the end. Do the same activity but straighten out the left leg.
- Hop on the right foot, across the board. Repeat using the left foot.
- Hop on the right foot part way across the board, turn around on the same foot, and walk backwards to the end.
- Walk to the middle of the board sidewards with the left foot leading, turn around and walk to the end with the right side leading.
- Walk the beam forward with hands clasped behind the body. Repeat walking backward.
- With hands clasped behind, walk to the middle of the board, turn and walk the rest of the board backward.

- Walk to the middle of the board and kneel on one knee, pick up an eraser and place it on the head, rise, turn around and walk backward the remaining distance.
- Walk backward with an eraser balanced on the back of each hand.
- Walk to the middle, do a balance stand on one foot, arms held at the sides with trunk and free leg held horizontally
- Walk under obstacles a foot shorter than the child, holding hands on hips. Repeat walking backward.
- Hop to the middle of the beam on the left foot, turn around on that foot and hope backward to the end. Do the same on the right foot.
- Walk the beam forward, eyes closed; walk backward; walk sideward.
- Stand with feet together (sideways) and eyes closed, record the time balance is maintained. Do the same activity but standing on left foot only. Repeat the same activity but standing on the right foot only.
- With partners starting at opposite ends, walk to the middle, pass each other and continue to the end.
- Place his hands on the beam. The teacher holds the child's legs (wheelbarrow) while he walks the board. The person holding the legs should walk on the ground straddling the beam. Later he walks on the board.

Ladder Activities (any flat ladder, placed flat on the floor)

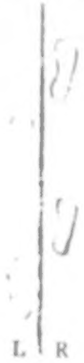
Have the child:

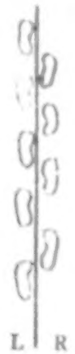
- Walk forward with one foot on each side of the ladder.
- Walk forward on the right side of the ladder; then on the left side.
- Walk forward stepping in the spaces between the rungs (awareness of space and direction and balance). Do the same but backward.
- Walk forward by stepping on each rung. Do the same backward.
- Balance while walking on the edges of the ladder.
- Place the ladder against the wall at varying degrees of steepness. The child climbs up and down. The teacher should stand at the bottom of the ladder in order to brace it.
- Walk forward picking up beam bags placed between each rung.

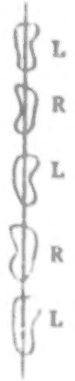
Balance Activities Using Footprints

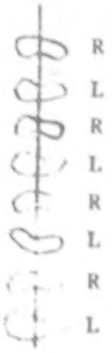
1. Set up patterns pictured below with footprints and large blocks. Stress the use of directions using the words "right and "left" as the child steps on each footprint.

2. Have the child stand directly on top of a footprint until a command go is given. Encourage the child who has vision to watch his feet as they make contact with the footprints.









SPACE AND DIRECTION

A child must be able to identify his body position with that of his surroundings (space), and realize the course of movement which he must follow in order to change from his present position to his destination (direction).

Encourage creative movement. Use your whole room. Do not demonstrate unless necessary.

Give the child the following commands. If he does not know them, show him. Then have him do them by himself.

- Show me how small you can be, how tall, wide, tall and thin, long and thin.
- Point to the farthest wall; touch it and return to your own place.
- Point to the nearest wall; touch it and return to your own place.
- Stand in your own place, make your feet move fast; make them move slowly.
- Move your hands fast; move them slowly.
- Show me how slow you can walk.
- Show me how fast you can walk.
- Be a tree, a wall, a ball, a river.
- Point to your front, to your back, to your side. (Vary the activity by using objects in the room)

Direct the child to point above, below, over, under and between objects in the room. Examples:

over the door
below the window
under the chair
between the desks
under the desk

over your shoulder
above the pictures
below the chalkboard
over the wastebasket
between the books

Begin with words over/under; above/below; between. Don't use all at once but work up to using many "direction words."

Move designated body parts in a specific direction. Some of the examples may have to be simplified at first:

- Put your finger up
- Put your head down
- Put your arms between your legs
- Put your fingers under your feet
- Put your elbows below your hips
- Put your feet over your head
- Put your arms in back of you
- Put your hands in front of you
- etc.

Gross Movements in Relation to Body Planes

- Show me your side. Can you move sideways?
- Can you jump up?

Walk a line or rope forward and backward.

Walk with one foot on each side of a line. Walk between two lines.

Have the child move his body in relation to objects in the room. Examples:

- Stand in front of your table.
- Stand with the windows in back of you.
- Stand so that the picture is to your side.
- Move so that you are under a table.
- Move so that you are under a chair.
- Move so that the door is in front of you.
- Move so that the door is behind you.
- Move so that you are between two chairs.

Objects in Relation to Body Planes

- Where is the ball? (in front of you, behind you, by your side)
- Is the ball by your feet or head?
- Is the chair to your side, to your back or to your front?

Set up an obstacle course. Include something to crawl through (cardboard boxes), to walk under (a pole or stick), to squeeze through (two desks or chairs), to step over (a pole or stick), to step into (a rope or tape circle).

The main purpose of this activity is to get the child in contact with the floor rug, or mat and force him to estimate the placement of his body in various situations. The child is expected to crawl through tunnels, walk around objects, crawl under tables, and jump over low objects.

Kinesthetic feedback and use of all muscle groups are the most important aspects of this activity.

The sequence should be demonstrated to the child. Then have him go through it.

Have the child close his eyes and point to familiar objects in the room. This activity is used to check and develop the awareness of his environment and the direction of his movements in relation to his surroundings.

Have the child jump, and while in the air, turn toward objects in the room. Repeat the action with his eyes closed.

Have the child jump and, while in the air, turn toward different sides of the room.

Have the child close his eyes and raise the right or left hand.

With his eyes closed, have the child raise his right or left leg. This will test the child's directional awareness and his sense of balance.

Teachers should always use the terms "right" and "left" when asking her children to line up for leaving the room or for playing games.

(If terms "left" and "right" are not understood, a point of reference may be used, e.g., a colored tag on the wrist, two different objects - one on each side, etc.) Also, the word "left" and "right" can be placed on the arms, hands, or legs if necessary.

Instruct the child to follow such directions as:

- Walk sideways to the left
- Walk sideways to the right
- Walk backward
- Walk forward

Do the same for hop, skip, jump, run, march, tiptoe . . .

Instruct the child to point to different sides of his body. Examples:

- Look to the left side of your body
- Look to the right side of your body
- Point to the right side of your head
- Point to the left side of your head
- Point to your right foot
- Point to your left foot
- Touch your right shoulder
- etc.

Have the child point to the right and turn in a complete circle to the right.

Have the child point to the left and turn in a complete circle to the left.

Have the child walk:

- To the right
- To the left
- Forward
- Backward

Repeat this activity using creeping.

LOCOMOTION

Locomotion includes those activities which result in moving the body through space. With these activities the child investigates the relationship between objects in space and of their positions in space.

Standing The child:	Will do job with complete physical and verbal or tactual help	Needs physical guidance and verbal or tactual help	Needs only slight physical cue and verbal or tactual help	Needs only a verbal or tactual cue	Total indenendence: remembers to do this task in sequence
Maintains erect posture					
Keeps body parts aligned					
Keeps feet parallel					
Keeps head centered and balanced					
Distributes weight evenly					
Keeps his chest up					
Keeps the buttocks tucked in					
Maintains relaxed knees					

Bending: (move one or more parts of the body closer to another one)

Bend each part of body through its full range of motion
Bend it at different speeds
Bend the parts individually or as part of a coordinated movement involving two or more parts of the body.

Twisting:

Rotate the upper part of the body while the lower part of the body remains stationary
Twist in either direction (right or left)
Maintain balance and rhythm
Twist at different speeds

Climbing:

- Use all four limbs
- Maintain bilateral coordination (right arm and left foot up and then left arm and right leg up)
- Pull with the arms
- Push with the legs
- Climb down as well as up
- Climb in a straight line
- Keep the body in the direction of the climb

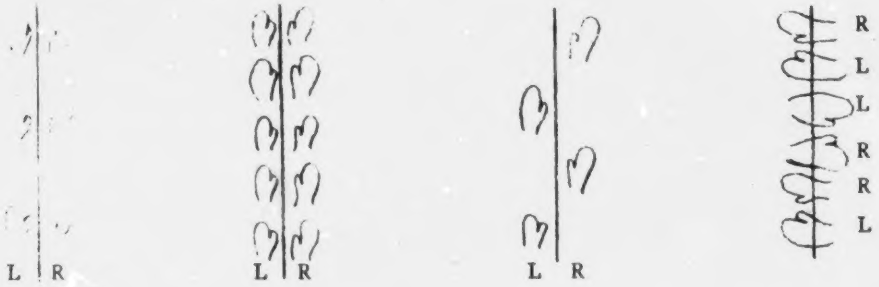
Creeping: (performed on hands and knees)

- Use all four limbs
- Maintain bilateral coordination (right arm and left knee forward and then left arm and right knee forward)
- Keep the back level

Locomotion Activities:

1. Crawling with hand prints: the child assumes the kneeling position on the floor (preferably on a mat or rug) and follows pattern below.

2. Encourage the child who has vision to watch his hands making contact with the hand prints.*

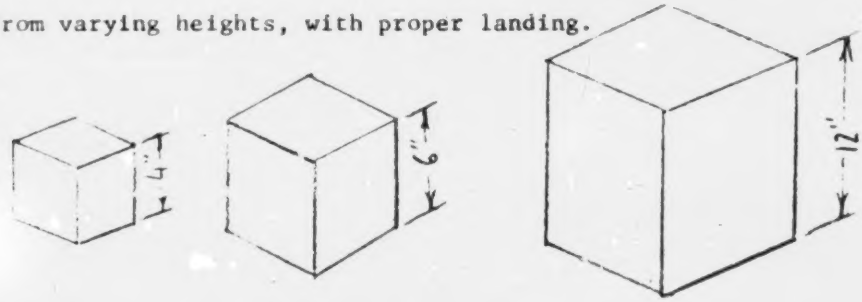


3. Vary these activities. Patterns can be on straight line, curved lines, or geometric shapes.

Have the child crawl on his knees using a cross pattern.

Jump in place.

Jump from varying heights, with proper landing.



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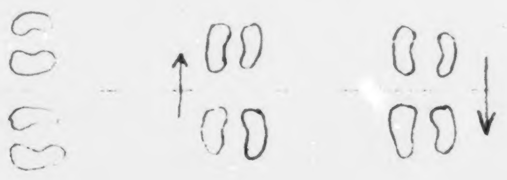
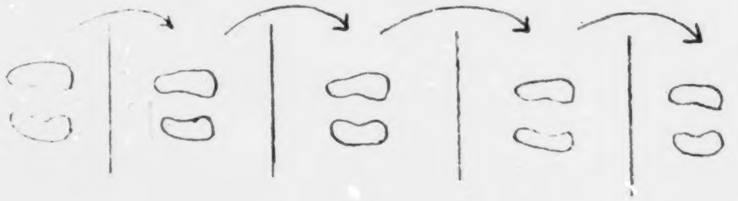
*hand prints and foot prints can be easily made using poster board and gluing felt of some other surface which is comfortable to the touch

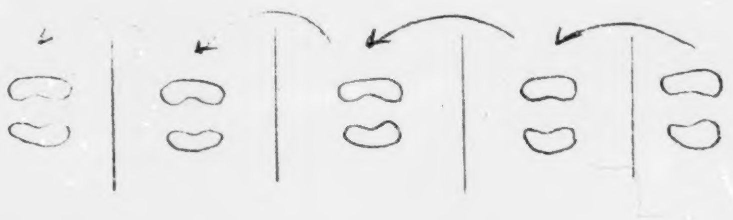
Using foot prints jump forward, backward and sideways over a line.



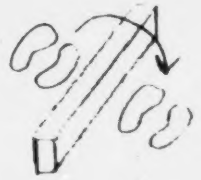
Jump forward in succession over several lines.

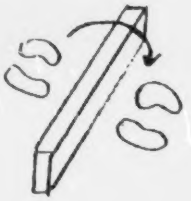


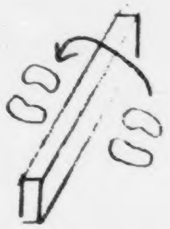
Jump backward over a succession of lines.



Jump forward, backward and sideways over a height.







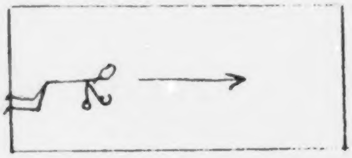
Mat Activities:

Crawling:

Starting position: Have the child in the crawl position (on all fours) with toes over the edge of the mat.

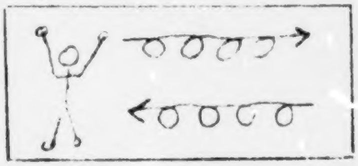
Action: He crawls on all fours to the end of the mat as rapidly as possible, touches the floor or an object and crawls backward to the starting position.

Variations: Crawl forward and backward
Crawl sideways
Crawl on knees and elbows



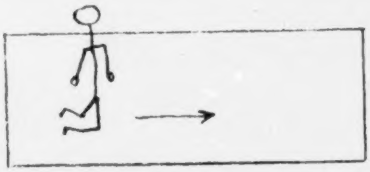
Log Roll

Starting position: The child lies across the end of the mat, arms extended over the head
Action: He rolls the entire length of the mat and returns to the starting position
Variations: He rolls to the right
He rolls to the left



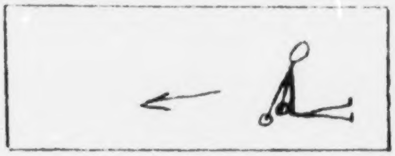
Knee Walk

Starting Position: The child stands on his knees and lower legs, hands to his side with toes over the edge of the mat
Action: He walks forward on his knees and lower legs to the end of the mat as rapidly as possible and returns to the starting position.
Variations: He locks his hands behind his back of behind his head
He walks forward, backward, or sideways



Row the Boat

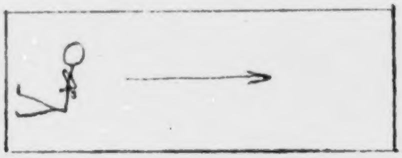
Starting Position: The child sits on the mat with legs extended so that his heels are over the end of the mat. His hands are on the mat behing his hips.
Action: Keeping the knees straight and without using his legs he pulls the body to the end of the mat with the arms and shoulders. The arms are used together. He touches the floor or an object and returns in the same manner to the starting position.
Variation: He uses his hands in an alternating sequence.



Seat Walk

Starting position: The child sits on the mat with legs extended so that the heels are over the end of the mat. His hands are folded over his chest.

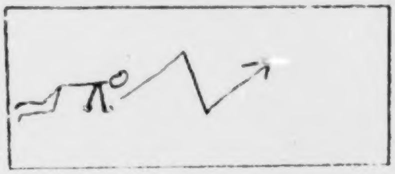
Action: He keeps his knees straight and walks on his buttocks to the end of the mat as quickly as possible.



Puppy Run

Starting position: The child is in a crawling position on hands and knees.

Action: He creeps in different directions and patterns (i.e., circle, square, triangle).
(Encourage the proper cross pattern movement.)



He should:

Point his fingers forward
Maintain his rhythm and continuous movement
Focus his eyes on his forward hand
Touch the cross pattern hand and knee to the mat at the same time
Crawl at varying speed maintaining the correct pattern

Walking

The child should:

Touch the heel to the ground
Roll easily from the heel to the ball of the foot, up and over the toe
Lift the foot clearly off the ground on each step
Point the toes forward
Hold the body erect and easy
Swing the arms in opposition to the legs
Swing the leg and body through the movement with each step
Have the supporting leg straight
Keep the face forward, in the direction of the walk
Walk in a straight line
Maintain bilateral coordination

Running

The child should:

- Push off from the back foot
- Lean forward; as the speed increases he should have a greater lean with the entire body, not merely bending from the waist and hips
- Land on the balls of the feet
- Bend his elbows about 90 degrees
- Swing his arms easily and from the shoulders
- Maintain bilateral coordination
- Swing his arms straight in front of the body, not across it
- Point the toes forward
- Maintain rhythm or continuous movement
- Lift the knees higher as the speed increases

Jumping

The child should:

- Take off using both feet
- Spring from the balls of the feet
- Leave the ground
- Use and control the entire body
- Swing arms back as the legs bend
- Swing arms up as the legs extend
- Jump in place
- Jump in a straight line

Landing

The child should:

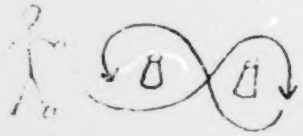
- Land with control
- Land with legs about shoulder width apart, either parallel to each other or one in front of the other
- Bend the knees so they give with the landing
- Control the body, arms, and head to assist in making an easy or light landing
- Make the landing easy, light, and under control
- Maintain his balance on landing
- Bring his arms down on landing

Locomotor Agility Exercises:

1. Figure eight

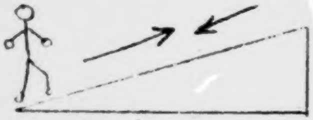
Starting position: maintain erect posture
Action: The child should walk around object on the floor arranges in figure 8 patterns. (Highway cones are excellent for this)

Variations: The child walks forward, backward, slowly, fast, or runs



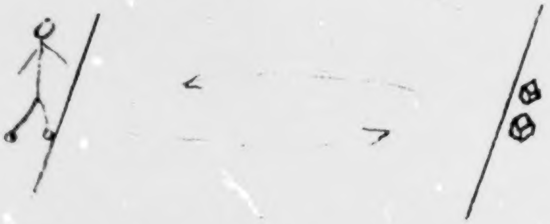
2. Incline

Starting position: The child maintains erect posture, standing at the edge of the incline
Action: He walks up the incline, makes a complete turn, and returns to the starting position
Variations: He walks forward, backward, sideways up the incline and rolls down
He rolls up the incline and walks down



3. Shuttle Run

Starting position: Have the child stand on the starting line until he is given a command. Place two objects (preferably small wooden blocks 3" x 6")on a line, taped or painted, a distance of 15 feet directly in front of the child.
Action: On command the individual must walk in a straight line, pick up one block, turn around, and return by placing the block on the starting line. He then proceeds to get the second block, repeating the same procedure as quickly as possible.
Variations: He repeats this activity by
Creeping
Walking forward, backward, and sideways
Running
Skipping
Hopping
Walking with a bean bag on his head
Increasing or descreasing the distance covered, or by changing the objects
The element of competition is well motivating in this activity. Match children according to their ability level



EYE-HAND COORDINATION

During the preschool years, a child develops hand muscle control in a rather aimless manner. Many parents and teachers fail to realize the necessity for training in this area. Therefore, many children are deficient in the areas of fine muscle and hand dexterity.

Activities to Develop Manipulative Skills (eye-hand coordination)

1. Pick up small objects such as pennies, marbles, beans, bottle tops, etc. Place these in the mouth of a small bottle or through a small opening in a box.

2. Have the child practice opening and closing a snap-type clothespin. When he is proficient at manipulating the clothespin, have him try picking up objects, e.g., pencils, paper clips, rubber bands, etc. with the clothespin.

3. Have the child squeeze water out of a sponge. Use both hands. Then use the right hand, then the left.

4. Have the child reach for, grasp, and release an object such as a bean bag, sponge, rubber band, etc.

5. Have the child put pegs in a pegboard. Use the left to right sequence.

6. Have the child put simple wooden puzzles together.

7. Have the child put together large nuts and bolts.

The combination of eyes and hands working together is necessary for achievement of many preschool classroom experiences.

Many children lack the ability to visually steer their hands through space to accomplish a given task.

Training in this area will give children the necessary practice to develop better eye-hand coordination.

Activities:

Pegs and Pegboards

Each child should have a pegboard and some pegs. For the visually handicapped child larger pegs are recommended. Direct the child to place the pegs:
any place on the pegboard
in the top row
in the corners
on the right side
on the left side
in the middle

The use of tape to designate specific patterns is helpful. The pegboard is also good for use in teaching colors or numbers.

Bean Bag Toss

Tossing bean bags: The child
throws the bag in the air and catches it
throws the bag from one hand to the other
throws the bag from one child to another
throws the bag underhanded
throws the bag overhanded
throws the bag from one hand to the other above the head
throws the bag into a bucket or container

Magnet Activities

Place a series of small metal objects on the floor on on a table. Suspend a magnet from a short piece of string. While holding onto the end of the string have the children attempt to pick up objects by using the magnet.

At first let the children explore the activity by picking up objects of their choice. Later, specify an object to be picked up. At the beginning place the objects far apart. After the child gets used to the task, place the objects closer together so as to encourage focusing on a specific object.

Stringing Beads (a long white shoe lace with a long tip hardened by fingernail polish or paint is recommended)

Have the child:
string beads randomly
string them by color
string them by shape
string them in a specific pattern
string them by number

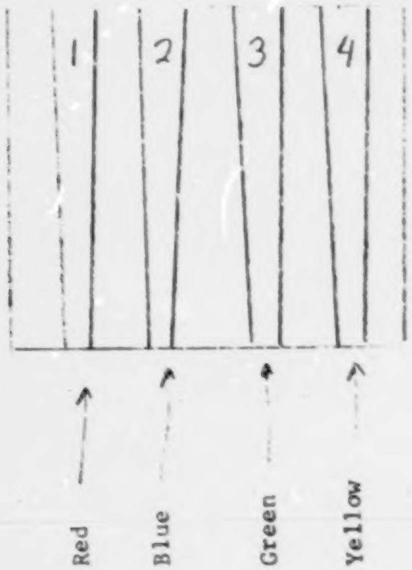
Color Coordination

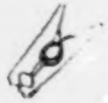
Have the child open a clothespin by depressing with his fingers and place it on a piece of cardboard or preferably 1/4" plywood.

Have the child:
place the clothespin on a designated column number 1-4
place the clothespin on a designated column color R-Y
match the clothespin with the color
match the texture of clothespin with a texture on the board

The columns should be wide on one side, and narrower on the other for use as the child gets more skill.

Ordinary spring loaded clothespins may be painted, numbered, or have textures glued to them.


1
2
3
4
Red
Blue
Green
Yellow



EYE-FOOT COORDINATION

Walk-the-line

Place a strip of masking tape or length of rope on the floor. Direct the child to walk on the tape while using his eyes to watch and make sure that his feet touch the tape at all times.

Variation: Have the child
walk forward, heel to toe
walk sideways,
walk backward
straddle the tape

The Snake

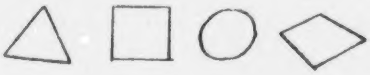
Place a strip of masking tape of length of rope on the floor in a wavy line. Direct the child to walk on the tape, making sure that he uses his eyes to follow the snake and watch his feet.

Variation: Have the child
walk forward
walk sideways
walk backward
straddle the snake
jump over the snake

Pattern Walk

Place a strip or strips of masking tape on the floor in a geometric shape, e.g., square, triangle, circle, etc. Have the child walk on the tape using his eyes to guide his footsteps.

Variations: Have the child
walk within the shape
walk around the shape
sit down in the shape
creep inside the shape without touching the lines

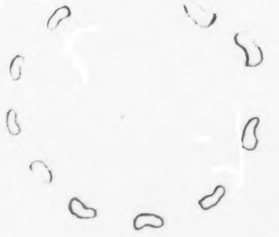


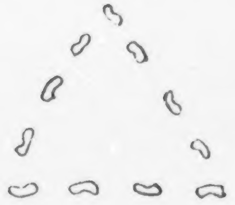
Foot Prints

Arrange foot prints on the floor in a desired pattern. Direct the child to walk on the foot prints using the proper foot while following a specific pattern.

Variations: arrange foot prints in:
straight line
circle
triangle
square
number design (1, 2, 3, 4)

Foot prints can be easily made by using poster board, red and green felt for the two feet and rubber spray or Velcro tape placed on the under sole to make them more resistant to skidding.

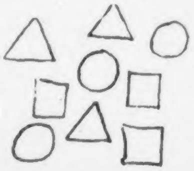




Stepping Stones

Arrange geometric cardboard cut outs on the floor in a desired pattern. Direct the child to jump directly from the top of one shape to another, watching the feet make contact with the shape.

Variations:
- jump randomly from shape to shape
- jump to a matching shape



Stepping Activities:

Select objects of various heights, such as boxes, blocks, ropes, etc. Place these so that the child can step over without touching them.

Variations:
- arrange an obstacle course
- arrange objects alternating high, medium and low so the child can judge the distance for himself

Balance Beam Walk

Place a strip of masking tape along the length of the balance beam. Using a pointer direct the child to walk on the tape, making sure that he focuses with his eyes to assure that his feet touch the tape at all times.

Recommended progression:
- creep across the beam
- walk forward, heel to toe, across
- walk sideways across
- walk backward across

Kick Ball

Direct the child to stand about five feet from you and have him kick a 12" ball back and forth. The kicking motion should be soft and smooth. Require that the child kick with both feet alternately. As the child becomes more proficient in kicking ability gradually, over a period of time, progress to smaller sized balls.

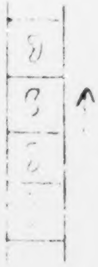
Ladder Activities:

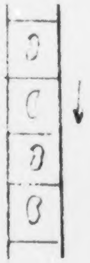
Any flat ladder is suitable. The ladder should be placed on the floor.

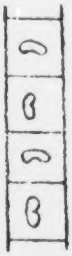
Arrange foot prints in a desired pattern within the ladder. Direct the child to follow the specific pattern, maintaining eye contact with the prints.

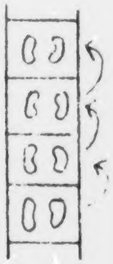
Variations: The child should

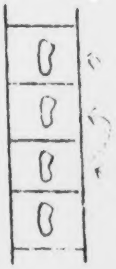
- walk forward between the rungs (alternating left and right feet)
- walk sideways between the rungs
- walk backward between the rungs
- jump forward over the rungs
- jump sideways over the rungs
- jump backward over the rungs
- place the ladder against the wall at a very slight incline and repeat the above











MUSCLE STRENGTH

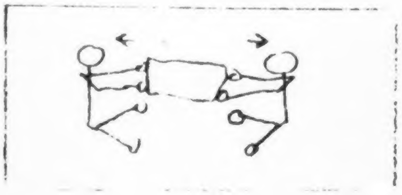
Strength Activities:

Seated, towel-pull in pairs

Starting position: Two children of comparable size and strength sit on a mat with legs extended and facing one another, each holding on to a towel.

Action: On command "go", the children begin to pull

Variation: Have one child sitting and the other lying on his back. Object is to pull the partner up to sitting position. Reverse the procedure.

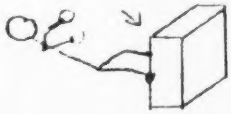


Leg Strengtheners

Starting position: Have the child lying on his back with his legs up and firm against an immovable object.

Action: Push as hard as possible using the legs to try and knock down the object

Variation: Use different objects, e.g., wall, table

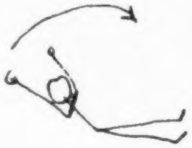


Sit-ups

Starting position: Have the child lie on his back with his arms stretched overhead.

Action: The arms are brought forward, raising the body from the floor

Variations:
Have the child clasp his hands behind his head
Hold on to an object while doing this

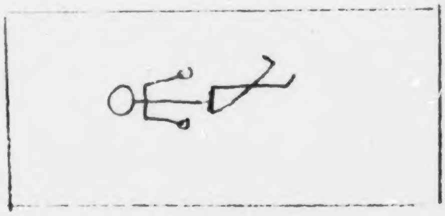


Leg Crossover

Starting position: Have the child lie on his back preferably on a mat or rug

Action: Keeping the right leg in place, cross the left leg over the right and place the foot flat on the floor, alternate legs

Variations:
Lift both legs simultaneously off the mat
Raise one leg and lower to the floor, repeat with the other



EURHYTHMICS

Rhythm is the flow of bodily movement. Through the development of rhythm a child can gain good muscle growth and motor coordination.

The child should be facing the teacher. Prior to each song the teacher should review the lyrics and demonstrate the movements. The child who is severely handicapped should be put through the desired range of movements until he is able to do them himself.

Act out the words to songs such as, "If You're Happy and You Know it Clap Your Hands," "This is the Way We Wash Our Hands," "Put Your Finger in the Air," etc. Words can be put to various melodies to teach different body concepts.

(Rhythm band instruments can promote an added bit of excitement and enjoyment. Rhythm activities can be used as a means of auditory training.)

Concepts and Communication

Developing one communication outline for all severely handicapped children would be wrong, because these children vary in their communication abilities. A year old child does not have the same language ability as a four year old. A deaf child and a profoundly retarded child may not have speech. The deaf child may, however, have inner language and perceive things around him as a child with speech would. The profoundly retarded child may not have speech because he is functioning in the language area of a child too immature to have speech.

It is important in developing communication to recognize and begin at the child's present language level. He may be at the level where he makes known his wants by crying, by babbling, by gesturing, leading you or pointing. He may also be capable of speaking, writing, signing, or fingerspelling.

Nonverbal Communication

If the child has no communication other than crying, listen to see if there is a difference in crying when the child is hungry, hurt, wet, or wants something. Your most important job at this point is to try to develop his awareness of other people enough to get him to want to communicate with them.

Work with the motor section of the manual to get him used to physical activity. Find activities he likes and choose one that is his favorite. How does he let you know he likes it? Watch to see and when he expresses himself by smiling, laughing, moving, rocking, etc., reward him by responding to the sound he makes. Reward him by repeating the activity.

Try to build up his desire to communicate with you to the extent that he wants the action repeated. Give him some kind of signal each time you do the activity. A hand movement, pat on the hand or arm, blowing, or any other movement can be used as a signal. Make the movement as you do the activity each time you do it. Wait to see if he anticipated the action after you give him the signal. Repeat this many times. Your goal is to have him give you the signal for the action he wants.

After the child has learned to signal for a particular action, teach other signals for other actions. Be sure they are actions the child likes. Swinging, jumping, blowing, eating, and bathing might be activities that you can develop signals for.

Pre-Verbal Communication

This is the stage when children have signals, babbling and gestures but do not yet have understandable speech. Your goal is to help him develop words for the activities he likes.

You begin by saying the word each time you give him something he particularly likes. Choose his favorite food and say the word. If he repeats the word, give him the object. You may have to start by giving him the object when he makes a sound that isn't very much like the word you want. You do want to reward the child for trying, however. As you repeat the activity, you can require him to get closer to the sound you want before you give him the object.

To choose words for the child to learn, begin with the child himself. Start with his name and the names of the main parts of the body. Later you can name more detailed parts.

Body Concept

- Head
  - Face
  - Nose
  - Eye
  - Mouth
  - Ear
  - Hair
- Neck
- Arms
  - Hand
- Legs
  - Foot

You must also help the child to develop concepts or an understanding of what goes on around him. Give the child examples by saying the word each time he touches an object that feels like the following:

Sensory Discrimination

hot
cold
wet
dry
hard
soft
circle
round
square
rough
smooth
sweet
sour
loud
soft

Your child must also develop the idea of his body and the position it has in space. Help him learn the following words by using them often when you hand things to him, when you play with him, and bathe and feed him.

Positions in Space

up
down
front
back
under
top
bottom
in
out
start
finish
floor
door

He also needs to get the idea of size and amount. These are words you can use to teach those ideas:

Size and Amount

glassful
all
none
more
some
big
little
full
empty

Time is also important. He may not understand these words the first few times you use them, but keep saying them each time you can meaningfully use them.

Time

tomorrow
morning
late
afternoon
next
after awhile
before
after
fast
slow

Self-Care

The names of clothes, foods, dishes, grooming tools, and furniture are also words he should learn. These will depend on what he wears, what he eats, the furniture in his room, etc. Make sure you always use the same word for the same object. If you want him to learn the word "sofa," you must use that word each time you refer to it until the child learns sofa. To call it a "sofa" one time, a "davenport" another, a "couch" another, and a "divan" still another will only confuse him. Be consistent and always use the word you want the child to learn.

There are words that we hope our children will learn because people expect them to use them. Again, use them in a meaningful way. To teach the words by themselves without the activity will keep the child from knowing what they mean. Use the words when you want the child to use them.

Social Courtesies

Thank you
I'm sorry
Excuse me
Please

Verbal Communication

Your goal is to have your child use connected speech and tell you things by using sentences. Once the child begins to talk by using single words you want to make sure that he puts two words together by not rewarding his one word responses. Reward him only when he puts two words together.

The same concepts need to be developed when a child is verbal as when he is pre-verbal. Activities to develop these concepts are as follows.

Body Concept

Suggested Activities

1. Touch the various parts of the child's body, name them, and have the child repeat the name.
2. Use pieces of masking tape. Name the parts as you put the tape on various parts of the body to see if the child is aware of the tactual sensation. Have him pull it off and repeat the name.
3. Have the child close his eyes. Touch a part of his body. See if he can touch the same place. See if he can name the part.
4. Sing songs naming various parts of the body, "This is the way we wash our hands (arms, feet, legs), wash our hands, wash our hands," etc.
5. Play "Simon Says" using parts of the body, "Simon says, Put your hands on your head," etc.

Sensory Discrimination

Suggested Activities

1. Put objects into a sack. Have the child feel until he finds a hard (soft, circle, rough) object.
2. Give the child one object (hard). Have him match it from several other objects (hard, soft, rough).
3. Have the child find something on his person that is soft (hard, smooth, rough), etc.

Positions in Space

Suggested Activities

1. Give each child a box. Have him put an object _in_, _on_, _under_, _in front of_, etc. the box.
2. Have the child stand _on_, _under_, _in front of_, etc. his chair.
3. Play _Follow the Leader_ naming the directions as you go through them.

4. Put footprints on the floor (red for right, blue for left). Have the child march on them as he says, "left, right."

Size and Amount

Suggested Activities

1. Take plastic margarine containers. Cut a small hole in the tops. Have the child put pegs (marbles, checkers, buttons) into the container until it is full. Empty them to show they are not full.
2. Have the child feel big and not big balls. Give the ball that is not big to you.
3. Put different kinds of foods in pill bottles. Have the child taste some peanut butter, some butter, some salt, some vanilla, etc. Point out that there is some left.
4. Put pegs in a box. Ask the child to give you all or some of the pegs. Have the child ask for some or all.
5. Measure yourself against the child and point out that one is big and one not big. Keep comparing different people so he will get the idea of big being a matter of comparison and that something can be big one time and little the next.

Self-Care

Suggested activities

1. Tell what you are wearing. Have the child tell if he is wearing that article of clothing. "I am wearing a blouse, Albert, are you wearing a blouse?"
2. Cut a boy and girl from corrugated cardboard. (Outline your child.) Dress them in appropriate clothes according to sex.
3. Give specific instances and have the child choose appropriate pictures or articles of clothing. "I should wear this when I go to bed." "I should wear this in swimming." "I should wear this when it's cold."

4. Put clothing together that goes together. Choose from two items what goes with a shoe, with pants, with a skirt, etc.
5. Discuss what clothes we wear on different parts of our bodies: feet, hands, head, arms, etc.
6. Put several utensils in a paper bag. Have the child identify them tactually.
7. Practice pouring beans or rice and later water from a milk carton into a glass.
8. Practice setting a table.
9. Have the child choose the appropriate utensil for eating soup, meat, milk, etc.
10. Tell the function of a utensil and have the child identify it; you put milk in it, you put it on your lap, you cut with it, etc.
11. Identify one food in all its forms: a whole orange, a sliced orange, orange sections, orange juice, etc. Prepare the fruit in front of the child. Let him taste it.
12. Present a sliced food. Have the child choose the whole from which it comes; i.e., sliced bananas come from a whole banana, not an orange or apple.
13. Make Jello or Kool-Aid. Discuss the color as you add water. Discuss the change from powder to liquid. Drink it.
14. Put several pieces of fruit in a paper bag. Ask the child to choose a fruit tactually.
15. Taste foods that are sweet (honey, sugar, syrup, candy), sour (pickles, sauerkraut, lemons, grapefruit), hard (apples, onions, potatoes, carrots), soft (cottage cheese, whipped cream, marshmallows), etc.
16. Have the child comb and brush his hair. Teach him to part it.
17. Have the child wash and dry his hands, being sure to push back the cuticle.

18. Have the child clean his fingernails.
19. Talk about the need for deodorant.
20. Show the child how to wash his comb and brush.
21. Name a household furnishing and have the child locate it within the room.
22. Describe an article. See if the child can name it. If not, have him feel it tactually.
23. Name an article. Have the child act out or describe its use.
24. Match objects: sheets-bed, desk-lamp, record player-records, pillow case-pillow, etc.
25. Place doll furniture or pictures of furniture in rooms according to use.

Time

Suggested Activities

1. Play a record at a fast speed and a not fast speed. Have the child try to sing fast and not fast.
2. Have the child tell what happens in the morning and afternoon.
3. Tell what you will do tomorrow. Each day discuss the name of the day and the name of tomorrow. Mark the day on the calendar.
4. Ask the child to watch and listen to what you do. Clap your hands and then whistle. Ask what you did before you whistled.
5. Tell the child you want to put on a coat and button it. Have the child give you a step by step description of what you should do next as you put it on.

Not all children will be able to go from the nonverbal to the pre-verbal level or from the pre-verbal to the verbal stage. The level of communication is not so important as the fact that the children have a means of communication. It shouldn't make a difference if a child signals, gestures, signs, or speaks to make his needs known. It would be nice if all children could learn to talk. That will be the goal but we must be satisfied with less if children cannot learn to talk. We must teach them as much as they can learn, and communicate with them no matter what kind of communication method is used.